

A VIEW ON PROTO-KAREN PHONOLOGY AND LEXICON¹

Theraphan Luangthongkum
Chulalongkorn University
theraphan.l@chula.ac.th

Abstract

The reconstruction of Proto-Karen (PK) has previously been attempted and presented in different ways by scholars, leading to some serious disagreements on some major points. To offer another new look at PK based only on fresh data collected by myself (except Bwe), the PK phonology and lexicon with 341 entries were reconstructed. Deliberately, available documented materials on the Karenic languages since 1799 onwards were not used for this reconstruction although they were consulted. The reconstruction is based on a 2,000-item word list with English and Thai glosses of ten selected Karenic varieties spoken in Thailand, i.e. Northern Pa-O and Southern Pa-O (Northern branch, NK); Kayan, Kayah, Bwe (from Henderson 1997) and Kayaw (Central branch, CK); Northern Sgaw, Southern Sgaw, Northern Pwo and Southern Pwo (Southern branch, SK). For comparative purposes, only the obvious cognates found in at least two of the three branches were used. In following this method, most of the items in my field notes had to be eliminated. The correspondence patterns of onsets, rhymes and tones were investigated and, then, the protoforms were reconstructed and compared with the previous PK reconstructions and with the PTB forms reconstructed by Benedict (1972) and Matisoff (2003).

Keywords: Proto-Karen, historical phonology, tonogenesis, Northern Karen, Central Karen, Southern Karen

ISO 639-3 codes: blk, bwe, eky, kjp, ksw, kvl, pdu, pww

1 Introduction

Karenic is a distinct cluster of languages (Van Driem 2001) or a branch of Tibeto-Burman (Matisoff 1991, 2003; Bradley 1997) of the Sino-Tibetan language family. Karenic languages are spoken in the border area of Thailand and Myanmar, a long strip of land from the north to the south. Some Sgaw Karen have migrated to the Andaman Islands and also to the United States of America, Europe and Australia due to the wars with the Burmese. In Myanmar, there are at least sixteen groups of the Karen: Pa-O, Lahta, Kayan, Bwe, Geko, Geba, Brek, Kayah, Yinbaw, Yintale, Manumanaw, Paku, Sgaw, Wewaw, Zayein and Pwo (Simons and Fennig 2018). Only two groups, i.e. Pwo and Sgaw, permanently live in the northern and western areas of Thailand. Most of them are Thai citizens. The total Karen population scattered in fifteen provinces is about 500,000. Those who live on the highlands still use their native languages (Pwo and Sgaw) in everyday life. The ones who live or work in towns and cities are unable to speak their own languages well anymore or have shifted to the languages spoken by the majority of the areas. The Sgaw living in Thailand prefer to be called /pya³³ kə³³ nɔ³³/ meaning ‘human being’, not “Kariang”, “Karang” nor “Yang” which they think of as having a bad connotation. Pwo people call themselves “Phlong” or “Phlow”, also meaning ‘human being’. A large number of Karen refugees can be found in many refugee camps situated near the Thailand-Myanmar border area, such as those in the provinces of Tak, Mae Hong Son, Ratchaburi and so on. Besides the Sgaw and Pwo, four more groups have been recorded: Pa-O, Kayah, Kayan and Kayaw. See Figure 1. Most of the Pa-O

¹ This paper is a research report of the sub-project “Proto-Karen” under the project “Karen Linguistics” funded by the Thailand Research Fund (TRF) from 2009-2012.

in Thailand are factory labourers in Central Thailand. The Kayah do dry-field cultivation in Mae Hong Son province, while the Kayan and Kayaw are part of the tourism business in the North. A rough and vague estimation of the total population of the Karen ethnic groups in Myanmar, Thailand, Europe, America and Australia is between 6-12 million (Manson 2009).

Figure 1: Ethnic Karen in Thailand (with courtesy of the “Karen Linguistics Project”, Chulalongkorn University and the Thailand Research Fund)



Sgaw



Pwo



Pa-O



Kayah



Kayan



Kayaw

According to the Bibliography of Karen Linguistics compiled by Manson (2017a) and my knowledge of the more recent works done in Canada at the University of Ottawa by Brunelle and his students and by our research team in Thailand at Chulalongkorn University, one can see that Karenic languages have widely been studied in comparison with the other indigenous languages of Southeast Asia, especially Sgaw Karen and Pwo Karen. Due to Manson’s contribution, a brief overview of Karen linguistic studies from the past to the present, about two centuries (1799-2017), can be made. The older works seem to focus on five aspects: language survey and usage, handbook and primer, vocabulary and comparative vocabulary, dictionary and thesaurus, and grammar book and grammatical sketch. From 1946 onwards, more modern linguistic-oriented

papers, research monographs, M.A. theses, Ph.D. dissertations and so forth on various linguistic aspects, i.e. phonetics², phonology, morphology and syntax, discourse analysis and comparative and historical study have appeared. The research works both published and unpublished on Karen linguistics from 1799-2017 are to be found in the Bibliography of Karen Linguistics by Manson (2017). In this paper, I will mainly focus on those related to my present study, especially the more recent ones.

Unfortunately, I have no access to Haudricourt's important papers written in French. However, his valuable views on Proto-Karen can be synthesised from a few secondary sources, e.g. Luce (1959), Benedict (1972), Henderson (1979), Mazaudon (1977) and Weidert (1987). Because of his wide-ranging interest in the many language families of Mainland Southeast Asia, he seems to have a good sense of what SEA languages should be like from both the synchronic and diachronic perspective. For example, his reconstruction of the three categories of PK initials, the preglottalised set (e.g. *ʔb *ʔd, etc.) which comes under the voiceless category (Category II), the two tones, *A and *B, and later, an addition of one more tone (B') to cope with the greater number of patterns of tonal correspondences pointed out by Luce (1959) and Jones (1971). Mazaudon (1977) and Weidert (1987) have expanded Haudricourt's opinions on the Proto-Karen tones and their development. To clarify his views, both authors devote one section of their monographs to discussing the development of the tonal systems in some modern Karenic languages from the Proto-Karen tones.

After his lengthy negative comments on Jones (1961) which I agree with, Burling uses Jones's data on Pa-O, Pwo (two dialects), Palaichi and Sgaw (two dialects) to reanalyse and present a new version of the Proto-Karen phonology and lexicon. Instead of two tones, i.e. *high and *low in both non-checked and checked syllable types as proposed by Jones, he reconstructs six proto-tones, namely, *1, *2, *3, *4, *ʔ1 and *ʔ2, the first four tones occur in non-checked syllables while the last two tones occur in checked syllables.³ His PK reconstruction looks much simpler and easier to follow than that of Jones (1961) who uses more complex methods and ways of handling problems. Burling reconstructs more tones but fewer of the other aspects. His solution makes the PK tonal system look like that of some Modern Karenic languages which have four tones in non-checked or smooth syllables and two tones in the checked ones,⁴ such as Pa-O, Pwo, some varieties of Sgaw and so forth. This suggests that the four-tone languages and varieties are conservative, i.e. their tonal systems are exactly like that of PK. However, some modern Karenic languages do have two tones, e.g. the Sgaw Karen varieties spoken in Pai district, Mae Hong Son province (L-thongkum 2012), Geba and Thalebwa (Shintani 2003), or three tones, e.g. Sgaw (Ratanakul 1986; L-thongkum 2012). Since PK has six tones, it implies that the "Great Tone Split" never occurred in Karenic languages. According to Matisoff (2003), Proto-Tibeto-Burman (PTB) is non-tonal; therefore, it is unlikely that the six tones in PK were born at the same time. With regard to tonal development, there is only a merger between tones, never a tone split, i.e. from the PK six tones to five or four tones in modern Karenic languages spoken nowadays. In the other tonal languages of Southeast Asia, splitting occurred first and was then followed by merging, or in other words, fewer tones become more tones due to the devoicing of the voiced initial obstruents (e.g. *b > p/ph) or the voicing of the voiceless initial sonorants (e.g. *hm > m). Moreover, Burling's reconstruction of the PK lexicon, which consists of many hundred protoforms, is heavily based on Sgaw and Pwo which are members of the Southern-Karen branch (Bradley 1997; Kauffman 1993) or the Sgaw-Pwo branch (Shintani 2003). Even though Pa-O is included, it seems to play a marginal role due to the lack of cognates. The data on Central Karen languages is completely ignored in both Jones (1961) and Burling (1969). It looks as if the valuable works on Proto-Karen by Haudricourt have mostly been appreciated in Europe, see Luce (1959), Henderson (1979), Mazaudon (1977) and Weidert (1987).

Henderson (1979) refers to Benedict (1972) and the items which show the reflexes of the PST tone *A, the PTB tone *A and the PK tone *A, for example, in the protoforms meaning 'water', 'new', 'bear (n.)',

² With regard to the acoustic and experimental studies of Sgaw and Pwo Karen, the contributors are Abramson (1995), Brunelle and Finkeldey (2011), Intajamornrak (2012), Teeranon (2012), Jitwiriyant (2012), Kerdpol (2012) and Pittayaporn (manuscript). Also, there are online term papers by Thomas & Alves-Soares (2011) and Finkeldey (2011).

³ Burling's tones *1 and *2 equal *B, *3 and *4 equal *A and *ʔ1 and *ʔ2 equal *D.

⁴ Synchronically analysed, these two tones, which are sometimes called "glottalised tones", can be regarded as the allotones of the high and low tones occurring in non-checked syllables.

‘white’, name and so on. As for the PST tone *B, the PTB tone *B and the PK tone *B, the protoforms such as the ones meaning ‘bitter, carry (on the back), dog, eat, ear, tail, female, mother’ are listed.⁵

Bennett (1992) briefly gives an overview of the comparative and historical phonology of the Karen languages in the last section of his seven-page handout on Karen phonetics and phonology: the loss and retention of final sonorants and the tonal developments caused by the register split of initial consonants including the developments of the “minor tones” from *B’ and the developments of the D tone in stopped or checked syllables. Finally, he ends his explorations by talking about the vocalic developments (vowel raising in Central Karen) and the consonantal developments ([u]~[w]~[r]) in the words meaning ‘bark fibre, bone, bowels, dry, side of body, snake’.

In his six-page paper “Another look at Proto-Karen” (looking like the handout distributed at ICSTLL 34, organised in Kunming, 2001), Solnit divides the contents into six sections: (1) The introduction which consists of the etymon *k-ɲaŋ^A ‘Karen’, the Karenic languages from which his data was drawn, the locations where they are spoken and the previous works by Haudricourt, Luce, Jones, Burling, Benedict and Mazaudon; (2) Tones and initial consonants: the proto-tones *A *B *B’ *D and the relationship between these tones and the laryngeal features of initial consonants conditioning tone splits and mergers, examples of the PK tone *A and the developments of stops; (3) PK phonology: an initial consonant inventory, the preservation of the laryngeal contrasts in obstruents in Blimaw⁶, the problem of mid-series labial and dental obstruents; (4) Rhymes: the PK basic vowel system and rhymes, the Central Karen vowel shift (*a, *e, *o, *i); (5) Subgrouping: the north-to-south transition of the seven words ‘spider’, ‘behind’, ‘fish’, ‘heavy’, ‘cooked rice’, ‘aim/point at’, ‘shadow’; and (6) Relations: genetic relationship and contact relationship. Solnit’s work can be viewed as a speculation on PK. It looks like a rough sketch of his PK monograph which he would like to complete in the future. Interestingly, Bennett (1992) and Solnit (2001) seem to base their PK analyses on Haudricourt’s previous views.

Besides the revised and updated Bibliography of Karenic Linguistics (2017), Manson has contributed approximately fifteen papers (mostly online) of his synchronic and diachronic studies of Karen linguistics from 2001-2017. However, only his works on the reconstruction of Proto-Karen, in his own words a “preliminary discussion” and the subgrouping or classification of the Karenic languages, which are relevant to my present study will be reviewed here.

In his 26-page article (Manson, 2009) he focuses his presentation on the following four major points: (1) external and internal classification of Karen; (2) summaries and comments of the previous reconstructions (Haudricourt, 1946 & 1953; Jones, 1961; Burling, 1969);⁷ (3) tonal development;⁸ and (4) a preliminary reconstruction of PK initials and rhymes with the correspondence patterns in eleven Karenic languages drawn from Luce (1985), Kauffman (1993) and his own field notes: Pwo (T), Pwo (D), Sgaw, Paku, W. Bwe, Geba, N. Pa-O, Kayan, W. Kayah, E. Kayah and E. Pho.⁹

According to Manson’s preliminary reconstruction, the reflexes of the 31 PK initials and 24 PK rhymes are as follows: *ph, *th, *ch, *kh, *p, *t, *c, *k, *ʔ, *b, *d, *ʃ, (*g), *hm, *hn, *hɲ, *m, *n, *ŋ, *s, *h, *hw, *hl, *hj, *hr, *ʔw, *ʔl, *w, *l, *j, *r, *i, *e, *ɛ, *ə, *a, *u, *o, *ɔ, *am, *an, *aŋ, *aʔ, *ɛm, *ɛn, *ɛŋ, *ɛʔ, *eŋ, *eʔ, *iŋ, *oŋ, *ɔn, *ɣn, *ɣŋ and *uʔ. With regard to consonant clusters, they are: *phl, *pl, *bl, *br, *thw, *khl, *khw, *sw.

Even though Manson (2009) thinks that Haudricourt’s analysis is the most “natural” and “predictive” among the existing reconstructions, he does not reconstruct *ʃ/*ʔb, *d/*ʔd, *x and *ɣ as does Haudricourt. Moreover, *hj, *hr, *ʔw and *ʔl are reconstructed while in Haudricourt they are not.

With regard to the classification of Karen languages, Manson (2009, 2011, 2017b) provides a comparison of the classifications done by Jones (1961), Burling (1969), Kauffman (1993), Bradley (1997),

⁵ My reconstruction of the protoforms of these words agrees very well. For the PK *A, see no. 324, 202, 15, 330, 198 and for the PK *B, see no. 24, 40, 87, 98, 95, 289, 112, 113 in the lexicon part of this paper.

⁶ Henderson (1979) mentions this point and gives some examples. Many more examples are to be found in her *Bwe Karen dictionary* (1997).

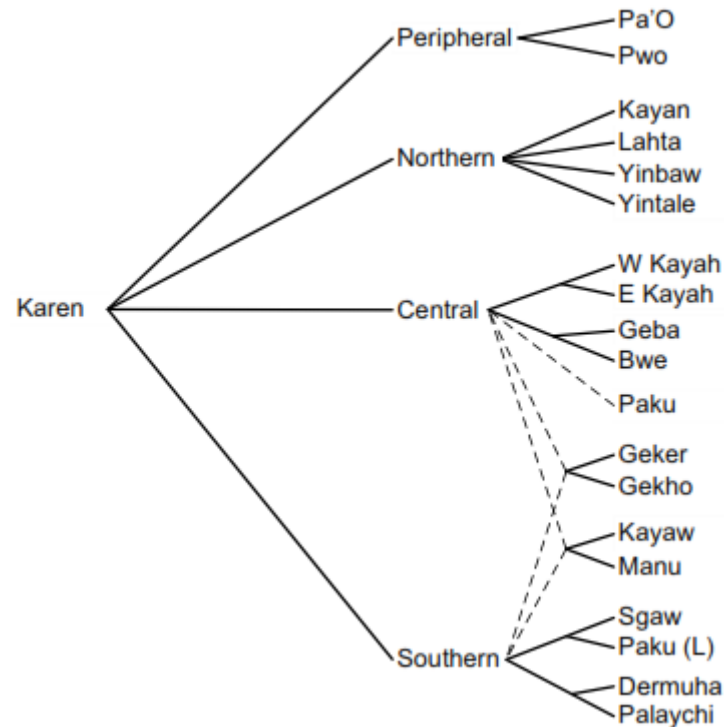
⁷ Manson (2009:11) concludes, “Comparing the three published reconstructions, Haudricourt’s analysis continues to be the most natural and predictive of the three reconstructions, ...”.

⁸ This section, which consists of the reviews of previous works, the Great Tone Split, the development of tones in Karen and Karen tone-box, seems to be the heart and soul of the article.

⁹ For a full account of his reconstruction, he refers to Manson (in preparation). As yet, I have not seen it.

Manson (2002) and Shintani (2003). Based on shared innovations with the emphasis on rhyme development, Manson (2011) proposes a new classification of Karen languages as shown in Figure 2.

Figure 2: Classification of Karen languages (Manson 2011:8)



To summarise, one of the most controversial aspects of previous PK reconstructions seems to have been the number of the PK tones and the development of tones in Karenic languages:

- Jones (1961): 2 tones (*high and *low in both non-checked and checked syllables)
- Burling (1969): 6 tones (4 in non-checked syllables and 2 in checked syllables)
- Haudricourt (1946): 3 tones (2, i.e. *A and *B in non-checked syllables and *C in checked syllables)¹⁰
- Haudricourt (1975): 4 tones (3, i.e. *A [level], *B [falling] and *B' [rising] in non-checked syllables and *C in checked syllables)
- Solnit (2001): 4 tones (3, i.e. *A, *B and *B' in non-checked syllables and *D in checked syllables)
- Shintani (2003): 4 tones (3, i.e. *1, *2 and *2' in non-checked syllables and *3 in checked syllables)
- Manson (2009, 2011): 4 tones (3, i.e. *A [high], *B [low] and *B' [mid] in non-checked syllables and *C [mid+glottal] in checked syllables)

It is interesting to point out that Haudricourt's proposal (1975) has been the most accepted by current Karen linguistic specialists.¹¹

Being aware of the previous reconstructions of Proto-Karen, somewhat different methods and different sets of Karen language data were used for my comparative and historical study and its results presented in this paper. The main contents are divided into six sections: methodology, field sites and language data, the correspondences of onsets, rhymes (vowel and vowel+final) and tones, PK phonology, PK lexicon (341 items) and remarks on the internal and external classifications.

¹⁰ A detailed discussion and expansion of Haudricourt's views is to be found in Mazaudon (1977).

¹¹ For more information on the development of Karen tones, see Mazaudon (1977), Weidert (1987) and Manson (2009).

2 Methodology

The previous reconstructions of Proto-Karen have mostly been based on the available documented materials in various forms, e.g. language learning materials, dictionaries, personal field notes and so on. More or less the same materials have been used for drawing suitable cognates in modern Karenic languages for the PK reconstructions which have been proposed from 1961 to the present.¹² In the recent studies of PK, e.g. Bennett (1992), Solnit (2001), Shintani (2003) and Manson (2009, 2011), the analysts' personal field notes have been added.¹³ This method is good when the old materials are regarded as the written record of the conservative pronunciation of the past that is assumed to be closer to the proto-language, provided that the transcription done by untrained field workers and non-native language teachers is accurate enough. On the other hand, we have to accept the fact that the data on present-day pronunciation, even though collected by well-trained linguists (the authors), has gone through various kinds of language variation and change due to language and cultural contact. It is doubtful whether the two types of data are comparable. Being aware of the problems mentioned above, for my reconstruction of the Proto-Karen phonology and lexicon presented in this paper, I deliberately used only fresh data collected by myself from 2009-2011. However, I skimmed through the available written materials which I could get hold of before devising a word list consisting of 2,000 items with Thai and English glosses. This word list was used as a guideline for data eliciting when interviewing my language consultants during my fieldwork in the North and West of Thailand. The elicited data obtained from ten Karen languages and/or their varieties (see the next section) was transcribed using IPA symbols. The minute and unnecessary phonetic differences were eliminated for the sake of a generalisation of the consonant, vowel and tone systems in each Karenic language variety before searching for cognates. For example, the high tones, mid tones and low tones were specified as 55, 33 and 11, respectively, no matter what the detailed phonetic characteristics of these three tones are. As for the contour tones, the more common ones are the falling tones, i.e. 53 or 31. Only a few of the Karen varieties, for example, the variety of Northern Pwo spoken at Ban Dong Dam in Li district of Lamphun province has a rising tone (35) which is rather uncommon. Therefore, the minimization of phonetic differences is not difficult to achieve.

Even though Karenic languages have been classified with different criteria by different linguists as summarised in the first section of this paper, in selecting the Karenic languages to be used as the representatives of each branch, I adopted Kauffman's classification which is geographically based. I do not think that a definite subgrouping can be done with certainty until many more Karenic languages spoken in Myanmar are carefully studied. In my study, two varieties of Pa-O (N.Pa-O and S.Pa-O) were chosen to represent Northern Karen (NK); Kayan, E.Kayah, W.Bwe (Henderson's Blimaw) and Kayaw for Central Karen (CK); two varieties of Sgaw (N.Sgaw and S.Sgaw) and two varieties of Pwo (N.Pwo and S.Pwo) for Southern Karen (SK). For comparative purposes, only the obvious cognates found in the three major branches (NK, CK, SK) or at least in two branches (NK & CK, NK & CK, CK & SK) were used. In following this method, most of the items obtained from my language consultants during the interviews had to be eliminated. The correspondence patterns of the onsets (initial consonants), rhymes (vowels and vowels+final consonants) and tones were analysed, and then, the PK phonology and protoforms (341 items) were reconstructed.

3 Field sites and language data

The data on the selected ten Karenic language varieties was solely collected by myself with the devised word list prepared as a guideline when working with my Karen language consultants. The "Word List for Investigating Karenic Languages" comprises twenty-three sections:¹⁴ Action verbs; Stative verbs; Body parts and secretion; Health and diseases; Fauna; Parts of plant; Flora; Natural objects and phenomena; Manmade objects and construction; Foodstuff; Culture and society; Kinship terms; Numerals; Classifiers; Measurements; Colours; Time; Direction and location; Pronouns; Question words and Miscellaneous.

¹² They are to be found in Manson (2004 and 2009).

¹³ Kato (2009) does the same thing when reconstructing the Proto-Pwo Karen roots.

¹⁴ The data on Karen animal names (fauna), numerals and classifiers has also been used for my other papers: L-thongkum 2011 and 2012.

The field sites are as follows:

- *N.Pa-O*: Huai Khan village, Mok Champae sub-district, Mueang district, Mae Hong Son province
- *S.Pa-O*: Wat Thaiwatthanaram, Mae Sot district, Tak province
- *Kayah, Kayan, Kayaw*: Huai Suea Thao village, Pha Bong sub-district, Mueang district, Mae Hong Son province
- *N.Sgaw*: Huai Khom village, Mae Yao sub-district, Mueang district, Chiangrai province
- *S.Sgaw*: Pa La-U village, Huai Sat Yai sub-district, Hua Hin district, Prachuap Khiri Khan province
- *N.Pwo*: Dong Dam village, Dong Dam sub-district, Li district, Lamphun province
- *S.Pwo*: Chao Wat Yang Daeng village, Kaen Magrut sub-district, Mueang district, Uthai Thani province
- *W.Bwe*: [Henderson's Bwe Karen dictionary: with texts and English-Karen word list (1997)]¹⁵

It is noticeable that the N.Pa-O variety has a lot of Tai borrowings since its speakers have a good relationship with the Shan living in Myanmar and Thailand, while those who speak S.Pa-O were in contact with the Mon before migrating to Thailand. The main distinction between the two varieties: (1) the phonetic characteristics of the B12 and B3 tones (<*B), i.e. B12 = 55, B3 = 53 in N.Pa-O but B12 = 33 and B3 = 55 in S.Pa-O; and (2) mostly, clear monophthongs in N.Pa-O while on-gliding and off-gliding vocalic quality plus a heavier phonation type in S.Pa-O due to the influence of Mon. Both varieties have final stops (p, t, k, ʔ) and final nasals (m, n, ŋ) but sometimes there is no agreement, i.e. different kinds of stops and nasals. Basically, E.Kayah, Kayaw and W.Bwe have three tones: high (55), mid (33) and low (11). I have noticed that in Kayah and Kayaw, monosyllabic citation forms tend to be pronounced with [-ʔ], whereas in compounds, phrases and sentences, especially in a stressed position, the final [-ʔ] always disappears. Vowel harmony and tone sandhi are common features. Synchronically analysed, Kayan and some varieties of Kayah can be said to have four tones in non-checked syllables; however, the fourth tone, i.e. mid-falling (31) has not been found in cognates. This tone occurs in a few words and I suspect that most of them are loanwords, especially from Burmese and/or Tai. The final -ŋ in Kayan comes from PK *-m, *-n or *-ŋ. It is fortunate that some W.Bwe languages have implosives or preglottalised stops and voiceless sonorants, which I think are a retention, not an innovation, in their phonological systems.

The nasalized vowels in Pho, which come from the final nasals in PK, are now becoming oral vowels plus final -ŋ in the speech of young Pho speakers. Most or all of the Pho varieties have four tones in non-checked syllables, i.e. PK *A > A1-23 and PK *B > B12-3. The unusual split pattern in the A-tone column is useful for the reconstruction of some glottalised sonorants. The phonetic characteristics or tone shapes of the A1, A23, B12, B3, D12 and D3 tones in N.Pwo and S.Pwo are different: 35, 55, 33 and 11" in N.Pwo and 53, 31", 55 and 33 in S.Pwo, respectively.

Based on the development of tones A and B, Sgaw has at least four major varieties. The varieties which I have had the opportunity to work on have two, three or four tones in the non-checked syllable, see Figure 3. Among the ethnic Karen in Thailand, the Sgaw are the majority, possibly one third. Therefore, Sgaw has widely been studied in comparison with the other Karenic languages spoken in Thailand as can be seen in the Bibliography of Karen Linguistics (Manson 2017). However, I only used my own field data for the PK reconstruction presented here. Among the Karenic languages, I think that Sgaw is the easiest to work on because of its simpler phonetics and phonology. More information on the profiles of the six ethnic Karen groups existing in Thailand is to be found in Schliesinger (2000).

¹⁵ W.Bwe Karen (Blimaw, Geba) is very important for PK reconstruction because it has the implosives or preglottalised obstruents ɓ/ʔb and ɗ/ʔd, including voiceless sonorants, e.g. hn, hl, and so forth.

Figure 3: Tones in the four varieties of Sgaw

(1)			
	*A	*B	*D
1	33	11"	45'
2		11"	45'
3		11"	21'

(2)			
	*A	*B	*D
1	33	31~/21'	45'
2		31~/21'	45'
3		11"	21'/53

(3)			
	*A	*B	*D
1	55	11"	45'
2		11"	45'
3		11"	21'

(4)			
	*A	*B	*D
1	55	45'	21'
2		45'	21'
3	33	31	11"

In addition to the four tonal patterns illustrated above, the Sgaw variety spoken in Pai district, Mae Hong Son province, has an unusual split in the B column: B1 = 11", B2 = 21' and B3 = 11", D12 = 45' while D3 = 53. Even though there are two tones in the B column, the non-checked syllables having the Category-I initials (e.g. *ph, *hm, *s) and the Category-III initials (e.g. *b, *m, *l) have the same tone, i.e. 11", while those having the Category-II initials (e.g. *p, *ʔb, *ʔ) have tone 21'. This means that the non-checked syllables in PK, i.e. *CV^B has become CVʔ²¹ (checked-syllable) in this modern Sgaw variety, provided that their initials or onsets are p-, t-, c-, k-, d- (<*ʔd-), b- (<*ʔb-) and ʔ; for example, *ce^B > ceʔ²¹ 'left (side)', *ʔe^B > ʔeʔ²¹ 'dung, excrement', *ʔde^B > deʔ²¹ 'frog', *ʔbaŋ^B > bəʔ²¹ 'bamboo shoot' and so on. Instead of the more common B12-3 like the split-pattern in (2), it has become B13-2.

4 Sound correspondences

The correspondences of the initials or onsets as well as the ones of tones seem to have fewer problems, see Tables 1 and 3. With regards to vowel correspondences, the picture is not so clear. Consequently, the reconstruction of PK vowels is more problematical, difficult and time consuming. If we assume that PK vowels should be more or less similar to the spellings found in old Sgaw and Pwo texts and dictionaries written in the Burmese-based and Roman-based scripts developed about two hundred years ago, a reconstruction of the vowels is not difficult. However, it is not so easy when the reconstruction is solely based on the data drawn from spoken Karenic language varieties collected in the present. Perfect patterns of sound correspondences especially of Karen vowels cannot be expected for many reasons, e.g. vowel harmony phenomena and borrowings, which are the result of various layers of language contact from the past to the present in the areas where Sino-Tibetan languages are spoken (LaPolla 2001). The causes of the irregular sound changes, in some cases, cannot be explained. This fact should be accepted; therefore, we must keep in mind that the reconstruction of a proto language is tentative. Reconstructions which are based on different sets of data can yield different results, more or less.

Some of the unusual patterns of vowel correspondences could have stemmed from the loss of some final consonants which have no traces in the present-day languages. Thus, it is likely that the correspondences of rhymes should receive more of our attention, at least in Karen, see Table 2.

Table 1: Correspondence patterns of the onsets

PROTO-KAREN	N. Pa-O	S. Pa-O	Kayan	Kayah	W.Bwe	Kayaw	N. Sgaw	S. Sgaw	N. Pwo	S. Pwo	No.
*ph	ph	ph	ph	ph	ph	ph	ph	ph	ph	ph	6, 12, 34, 36, 103, 121, 182, 256, 281
*phl	phl	phl	phl	phl	-	phl	phl	phl	phl	phl	57
*phr/*phw	phr/phw	phw	phw/ph	phw/ph	phr/phw/ph	ph	phɣ	phɣ/ph	ph/khw	ph/khw	30, 39, 148, 166
*th	th	th	th	th	th	th/h	th	th	th	th	5, 15, 22, 27, 51, 115, 143, 167, 175, 218, 221, 226, 243, 252, 270, 277, 287, 298, 319, 324, 326, 327
*thw	thw	thw	thw	thw	thw	th	thw/chw	thw	thw	thw	87, 238, 258, 292
*thr	-	-	th	th	thr	th	th	th	th	th	237
*ch	ch/ɕ	ch/ɕ	ch/th	ch	ʃ	ch/ɕ	ch	ch	ch	ch	102, 110, 152, 177, 228, 251, 278, 291, 314
*chw	chw	chw	chw	chw	ʃw	chw	chw	chw	chw	chw	64, 325
*chj	ɕj	ɕj	ɕ	ch	ʃ	ɕ	ch	ch	ch	ch	47, 268
*chr	ch	ch	ch	ch	-	ch	chɣ	chɣ	-	-	322
*kh	kh	kh	kh/h	kh	kh	kh	kh	kh	kh	kh	9, 24, 56, 68, 73, 79, 83, 162, 184, 255, 301, 304
*khw	khw/kh	kh	khw/kh	khw/kh	khw/kh	kh	khw/kh	khw/kh	khw/kh	khw/kh	61, 183, 190, 203
*khl	khl	khl	khl	khl	khl	-	khl	khl	khl	khl	170, 186, 264
*khr	khr/khj/s	khr/khj/s	khj/ch	khr	kh/x	kh/c/x	x	x	k/x	k/x	29, 80, 101, 259
*khrw	ch	ch	chw	khrw	khw	ch/x	x	x	x	xw	31
*s	s	s	θ	s	θ	s	s	s	s	θ	41, 52, 76, 128, 142, 156, 180, 202, 222, 229, 242, 244, 253, 300, 305
*sw	sw/s	sw/s	θw/θ	sw/s	θw/θ	s/β	sw/s	sw/s	sw/s	θw/θ	25, 46, 173, 179
*sl	l	l	l	l	l	l	s	s	s	-	136
*sr	s	s/ɕ	θ	s	θr	s	ɕɣ/s	ɕɣ	ɕj/sj/s	θ	10, 32, 144, 149
PROTO-KAREN	N. Pa-O	S. Pa-O	Kayan	Kayah	W.Bwe	Kayaw	N. Sgaw	S. Sgaw	N. Pwo	S. Pwo	No.
*h	h	h	h	h	h	h	h	h	-	ɣ	48
*hm	m	m	m	m	m	m	m	m	m	m	66, 112, 114, 165, 197, 239, 246, 271, 332, 336
*hn	n	n	n	n	n	n	n	n	n	n	18, 67, 71, 171, 254, 313, 338
*hnw	n	n	nw	-	nw	n	nw	nw	nw	nw	337
*hɲ	j	j	ʃ	j	j	j	ɲ	ɲ	j	j	97, 120, 288
*hŋ	ŋ	ŋ	ŋ	ŋ	-	-	ɲ	ɲ	-	-	127
*hw	w	w	hw	w	h	-	w	w	w	w	8
*hl	l	l	l	l	l	l	l	l	l	l	14, 62, 92, 158, 164, 181, 231, 276, 317
*hr	r	r	r	r	h	r	-	-	-	-	298
*hrw	r	-	rw	rw	-	r	w	w	w	w	232
*p	p	p	p/ph	p/ph	p/ph	p/ph	ph	ph	p/ph	p/ph	36, 40, 106, 176
*pw	bw	bw	bw	b	pw	b	pɣ	-	-	-	129
*pl	pl/l/p	pl/bl/p	pl/bl	pl	pl	pl/p	bl/l/p	bl/l/p	phl/l/p	phl/l/p	13, 55, 219, 257, 262, 272, 290, 295
*pj	pj	pj	bj	-	b	-	b	-	p	b	118
*pr	pr/phr	pr	phr	phr	phr/p	pr/phr	bɣ	pr/bɣ	pj/phj	pr/pj	273, 316
*t	t	t	t/th	t/th	d	t/th	t/th	t/th	th	th	3, 216
*tr	-	-	-	r	tr	tr	kr	r	-	ɣ	191
*c	c	c	c/ch	c/ch	c/ʃ	c/ch	c/ch	c/ch	c/ch	c/ch	161, 220, 248, 302, 329
*cw	c	c	cw	cw	-	c	~w	-	-	~w	284

Table 1 (continued)

PROTO-KAREN	N. Pa-O	S. Pa-O	Kayan	Kayah	W.Bwe	Kayaw	N. Sgaw	S. Sgaw	N. Pwo	S. Pwo	No.
*kw	kw/w	kw/w	khw/hw	khw/w	kw/khw/w	khw/hw/kh	kw/khw	kw/khw	kw/khw	kw/khw	17, 45
*kl	kl/khl/k	kl/k	kl/khl	kl/khl/k	kl/khl/k	kl/khl/k	kl/khl	kl/kh	kl/khl	kl/khl	28, 69, 119, 138, 309
*kj	khj	-	kh	khj	-	-	k	k	k	k	7
*?b	b	b	b	b	ḃ	b	b	b	b	b	11, 44, 53, 58, 60, 201, 223, 234, 236, 247, 297, 339
*?bw	bw	bw	b	b	ḃ	b	kw (?)	w	-	kw (?)	330
*?bl	pl	pw	bw	b	ḃ	b	b	b	b	b	109
*?d	d	d	d	d	d/d	d	d	d	d	d	21, 59, 72, 74, 84, 99, 126, 200, 233, 274, 305, 318, 323, 335
*?dw	dw/d	dw/d	dw	d	d	d	dw	dw	thw	thw	132, 296
*?l	l	l	l	l	l	l	l	l	l	l	193
*?j	?	?	?j	?	?	?	?	?	?	?	199
*b	ph	p	p	p	b/p	p	p	p	ph	ph	209, 215, 224, 294
*bl	pl/phl	pl	pl/p	pl	bl	pl	pl/phl	pl	pl/phl	phl	4, 168, 260, 283, 307, 321
*br	phr	phr/pr	pr	phr	bw/b	pr/r	bɣ/pɣ/phɣ	pɣ/ɣ	ɣ/xw/sj	ɣ/xw/ɕ	38, 54, 154, 205, 214
*d	th/t	t	t	t	d	t	t	t	th	th	2, 108, 115, 137, 146, 169, 225, 240, 299, 308
*ʃ	c	c	c	c	c	c	c	c	ch	ch	275, 280, 341
*g	k/kh	k	k	k	g	k	k	k	kh	kh	100, 269, 286
*gw	w	w	gw	w	w	w	w	w	w	w	151
*gl	-	kl/kw	khl/k	kl	kl	kl/k	kl/k	kl/k	kw	kw	145, 213
*gr	s/ɕ	s/ɕ	c/ch	kh	-	c/x	x	x	x	x	16, 101, 153, 178
PROTO-KAREN	Pa-O	S. Pa-O	Kayan	Kayah	W.Bwe	Kayaw	N. Sgaw	S. Sgaw	N. Pwo	S. Pwo	No.
*m	m	m	m	m	m	m	m	m	m	m	27, 86, 88, 90, 107, 113, 194, 198, 267, 285, 289, 311, 333
*mw	mw/m	mw/m	mw/m	m	m	m	m	m	m	mw/m	93, 340
*ml	-	m	m	m	bl	-	ml	ml	ml	ml	312
*n	n	n	n	n	n	n	n	n	n	n	33, 35, 37, 75, 95, 104, 147, 204, 261, 263, 334
*ɲ	j	j	ʃ	j	-	-	ɲ	-	j	j	210
*ɲw	ɲw	ɲw	ɲw	-	m	m	-	-	-	-	265
*ɲj	ɲj/ɲ	ɲj/ɲ	j/ɲ	ɲj/ɲ/j	j	j	j/z	j	j	j	50, 116, 174
*w	w	w	w	w	w	w	w	w	w	w	187, 188
*l	l	l	l	l	l	l	l	l	l	l	1, 20, 82, 133, 134, 135, 139, 157, 160, 206, 227, 230, 282, 315, 320, 331
*lw	lw	lw	lw/l	lw	lw/l	l	lw/l	lw/l	l	lw/l	89, 131
*j	j	j	j/ʃ	j	j	j	j	j	j	j	19, 78, 96, 192, 195, 211, 249, 310
*r	r	r	r	r	R	r	ɣ	r/ɣ	ɣ	w/β	117, 217, 266
*rw	rw	rw	rw	rw	w	r	ɣ	ɣ	ɣ	w	241
*rj	rj	rj	j	j	j	j	j	j	j	j	150

Table 2: Correspondence patterns of the rhymes

PROTO-KAREN	N. Pa-O	S. Pa-O	Kayan	Kayah	W.Bwe	Kayaw	N. Sgaw	S. Sgaw	N. Pwo	S. Pwo	No.
*i	i	i	i	i	i/ɪ	i (u)	i	i	ei (i)	ei (i)	25, 27, 45, 60, 65, 67, 81, 87, 89, 119, 125, 166, 188, 203, 212, 241, 265, 276, 280, 294, 333
*e	e	e	ai (iʔ)	i (e)	i (ɪ,e)	i (e)	e (ɛ)	e (ɛ)	i (ɛ)	i (ei)	18, 34, 38, 94, 114, 126, 149, 157, 161, 191, 200, 204, 216, 235, 250, 262, 289, 303, 307, 318, 323
*ɛ	ɛ (ai)	ɛ (ai)	ɛ	a (ɛ)	ɛ (e)	ɛ	ɛ/e	ɛ/e	ɛ/e	ɛ/e	64, 74, 129, 131, 132, 213, 233, 238, 331, 337, 340
*i	i	i	i (o)	ɔ	o (u)	i	i (iʔ)	i	ɔi (ou)	i (u)	40, 43, 112, 285
*ə	ə (i)	ə (i)	əi	o	o	ə	i	i	əi (ɔ)	i (o)	3, 59, 143, 176, 194, 234, 256
*a	a (i)	a	a (au)	e (a,u)	ɛ (e,a,u)	a (e,u)	a	a	a (ɛ)	a (ai)	4, 6, 8, 10, 13, 24, 37, 46, 49, 53, 54, 66, 86, 88, 95, 118, 120, 123, 127, 128, 135, 150, 151, 152, 153, 158, 167, 168, 171, 178, 182, 183, 185, 193, 205, 207, 210, 223, 244, 248, 272, 274, 278, 290, 321, 326, 330, 332, 336, 341
*u	u	u	u	u (o)	u (u)	u	u (o)	u	u (a,ɔu)	u (ə)	26, 35, 42, 51, 83, 113, 136, 220, 270, 273, 287
*o	o (ə,u)	o (u)	au (ɔ)	u	o (u,u)	u (o)	o (ɔ)	u (ɔ)	u (oʔ)	u (i,uʔ)	21, 22, 56, 70, 89, 92, 134, 137, 180, 209, 211, 253, 264, 286
*ɔ	au	au	ɔ/au	o	ɔ (o)	o	ɔ (o)	ɔ (u)	ɔ	ɔ (o)	30, 91, 121, 140, 144, 186, 201, 306, 329
*im	im	im	i	i	i	i	i	i	āi	ēi	275
*in	in	in	(əŋ)	i	i	i	i	i	āi	ēi	198, 239, 315
*iŋ	iŋ	iŋ	i	i	-	i	i	-	āi	ēi	304
*eŋ	eŋ	eŋ	eŋ (e)	a/ai	e	e (ə)	e (i)	e (i)	āi	ēi	77, 122, 130, 247, 257, 298, 338
*eN	eN	-	e	ai	e	e	e	e	-	ēi	240
*em	em	em	aŋ	-	-	i	e	i	āi	āi	231
*en	en	en	aŋ	i	-	i	i	i	āi	āi	199

PROTO-KAREN	N. Pa-O	S. Pa-O	Kayan	Kayah	W.Bwe	Kayaw	N. Sgaw	S. Sgaw	N. Pwo	S. Pwo	No.
*eŋ	eŋ	eŋ	i	a	-	i	e	i	āi	āi	325, 327
*eN	eN/eŋ	eN/en	i/aŋ	a,i	-	-	e/i	i	āi	āi	23, 170
*im	um/om	əm/uəm	i	i/i	u	i	ɔ	i	ā	āi	19, 169, 245
*i(w)in	in	uən	i	o	u	u	u	u	ā	āi	173
*iŋ	əŋ	əŋ	i	i	-	-	ɔ	i	ā	āi	334
*iN	in/im/un	in/uəm	i	i/o	u/o	i/u	ɔ/u	i/u	ā	āi	93, 148, 179, 258, 296
*əm	əm	əm	ə	ɔ	o	ə	ə	ə	ā	ā	300
*əŋ	əŋ	əŋ	əŋ/ə	ɔ	o	ə	ə	ə	ā (ā)	ā (āi)	2, 224, 242, 277, 302, 311
*əN	əŋ	-	ə	ɔ	-	ə	ə	ə	ā	-	85
*am	am	am	aŋ/a	ɛ/a/e	ɛ/a	ɔ/a	ɔ	ɔ	ē/ō	ō	15, 16, 98, 145, 310, 320
*an	an	-	aŋ	-	ɛ	ɔ	ɔ	ɔ	ē	ō	9
*aŋ	aŋ	aŋ	aŋ	ɛ	a	ɔ	ɔ	ɔ	ē	ō	5, 11, 44, 82, 90, 102, 162, 252, 269, 317, 339
*aN	an/aŋ/a	an/a	aŋ (i,i)	ɛ/a/e	ɛ/a/i	ɔ (a,i)	ɔ	ɔ	ē	ō	47, 68, 100, 196, 202, 208, 228, 268, 271, 292, 293
*un	un/ən	uən	aŋ	i	u/u	u	-	u	-	-	189, 222
*uŋ	əŋ	əŋ	aŋ	i	u	u	ɔ	ɔ	ā	ō	109
*uN	un/in/ən	uən	aŋ	i	u/u	u	u	u	ā (ā)	ō	39, 105, 110, 221, 227
*-om	om	om	o	u	o	ə	u	u	āu	ōu	219
*-oŋ	oŋ	oŋ	o (əu)	ɔ	o	ə	ə (ɔ)	ə (i,u)	aū (ə)	oū	57, 146, 147, 181, 282, 295, 328
*-ɔŋ	ɔŋ	ɔŋ	ɔ	o/ɔ	ɔ	o	o	u	ō	ō	55, 215, 225

Table 2 (continued)

PROTO-KAREN	N. Pa-O	S. Pa-O	Kayan	Kayah	W.Bwe	Kayaw	N. Sgaw	S. Sgaw	N. Pwo	S. Pwo	No.
*-ɔN	oŋ	oŋ/ɔ	ɔ/au	o	ɔ/ʊ	o	o/ɔ	u	ɔ̃	õ	58, 71, 172, 312
*-ej	i	i	i (ai)	ə	i (e)	i	i (e)	i	ei	ei	28, 29, 32, 52, 69, 72, 75, 76, 79, 99, 133, 160, 165, 197, 206, 283, 291, 301, 313, 314, 324
*-ej	ɛ	ɛ	i	i	-	e	e	e	ai	ai	187
*-aj	ai (a)	ai	ai (i)	ai (a,e)	ɪ	i (a)	e	i	ai	ai	50, 164, 249, 261
*-aw	o	o	au	u	o	u	ɔ	ɔ	ɔ	o	97, 175
*-ow	u	u	u (əu)	o	u	u	i (u)	i	ou	ou	9, 14, 62, 195, 259, 266, 279, 281, 299, 305, 322
*-iʔ	eʔ	iʔ	iʔ/iʔ	i	i (a,i)	i	iʔ	aiʔ	aiʔ (i)	aiʔ (eiʔ)	41, 61, 73, 106, 119, 232, 309
*-it	ut	ɹut	iʔ	i	i	u	i	i	ei	i	31
*(w)ik	uk	uʔ	iʔ	i	-	i	iʔ	-	-	aiʔ	284
*-eʔ	eʔ/iʔ	iʔ	iʔ	a	e (i,i)	e	iʔ	aiʔ/ai	aiʔ	aiʔ	12, 154, 163, 217, 230, 335
*-ek	eʔ	ek	iʔ	a	e	e	iʔ	ai	ai	ʔaiʔ	139
*-ɛʔ	ɛʔ	ɛʔ	ɛʔ	a	e/i	e	ɛʔ	ɛʔ, ɛ	eʔ	eʔ	96, 107, 108, 226, 246, 260, 308
*-əʔ	əʔ	əʔ	əʔ	ɔ	o	ə	uʔ	əi	əʔ	əʔ	111, 117, 141
*-aʔ	aʔ	aʔ	aʔ (i,u)	a/e	a (ɛ,i)	ɔ (a,u)	aʔ (uʔ)	aʔ/ai	aʔ	aʔ	7, 20, 36, 44, 115, 142, 155, 156, 159, 174, 214, 251, 255, 267, 317
*-at	at	at	ɛʔ	ɛ	ɛ	ɛ	ɛʔ/ɛ	ɛ	ɛ	ɛ	17, 116
*-aK	at	ap	ɛʔ	ɛ	ɛ	ɛ	ɛ	ɛ	-	ɛ	48
*-uʔ	-	-	-	i	-	i	uʔ	ɔuʔ	auʔ	ɔuʔ	243, 319
PROTO-KAREN	N. Pa-O	S. Pa-O	Kayan	Kayah	W.Bwe	Kayaw	N. Sgaw	S. Sgaw	N. Pwo	S. Pwo	No.
*-uk	uk	-	uʔ	i	u	i	uʔ	ɔuʔ	auʔ	ɔuʔ	63
*-oʔ	oʔ	uʔ (oʔ)	ɔʔ	ɔ	o	ə	əʔ/iʔ/uʔ	ɔuʔ	auʔ	ɔuʔ	1, 80, 190, 192, 236, 237
*-ok	ok	uʔ	ɔʔ	ɔ	o	ə	uʔ	ɔ	auʔ	ɔuʔ	33
*-ɔʔ	ɔʔ (əʔ)	ɔʔ	auʔ	ɛ	ɔ	o	ɔʔ	ɔʔ (oʔ)	oʔ	uʔ	27, 78, 103, 184, 218, 229, 254, 288, 316
*-ɔt	ət	ɔt	auʔ	-	-	ɔ	ɔʔ	oʔ	oʔ	uʔ	101

Table 3: Correspondence patterns of tones

PROTO-KAREN	N. Pa-O	S. Pa-O	Kayan	Kayah	W.Bwe	Kayaw	N. Sgaw	S. Sgaw	N. Pwo	S. Pwo	No.
*A > A1	31 [~]	31 [~]	53	33	55	55	33	55	35	53	9, 10, 15, 18, 30, 34, 39, 47, 67, 68, 76, 79, 85, 92, 97, 102, 105, 121, 127, 148, 152, 165, 166, 167, 170, 175, 177, 182, 183, 189, 202, 203, 238, 239, 242, 245, 252, 253, 258, 259, 261, 263, 268, 270, 271, 281, 291, 298, 300, 304, 313, 317, 324, 325, 327, 332
> A2	31 [~]	31 [~]	53	33	55	55	33	55	55	31 [~]	26, 28, 43, 58, 59, 65, 72, 77, 91, 119, 123, 129, 130, 185, 191, 193, 200, 201, 208, 220, 223, 233, 248, 257, 262, 273, 274, 290, 293, 296, 297, 302, 303, 307, 318, 323, 330, 339
> A3	33	53	33	11	33	33	33	33	55	31 [~]	16, 27, 38, 50, 54, 75, 82, 88, 93, 100, 122, 125, 131, 133, 134, 135, 147, 150, 151, 160, 169, 187, 188, 198, 206, 210, 211, 213, 215, 224, 240, 249, 269, 283, 306, 312, 320, 333, 334
*B > B1	55	33	11	11	33	11	31 [~]	45'	33	55	5, 6, 8, 14, 22, 24, 25, 29, 32, 46, 51, 52, 56, 57, 62, 64, 66, 71, 83, 87, 110, 112, 114, 120, 125, 128, 136, 143, 144, 158, 162, 164, 171, 173, 179, 180, 181, 186, 197, 221, 222, 228, 231, 244, 256, 264, 276, 277, 278, 279, 287, 292, 301, 305, 314, 322, 326, 336, 337, 338
> B2	55	33	11	11	33	11	31 [~]	45'	33	55	3, 11, 21, 23, 40, 45, 49, 53, 55, 60, 69, 70, 74, 81, 84, 94, 98, 99, 109, 118, 126, 132, 138, 140, 161, 172, 176, 199, 212, 216, 219, 234, 247, 272, 295, 305, 329
> B3	53	55	11	11	33	11	11 [~]	31	11 [~]	33	2, 4, 19, 35, 37, 86, 89, 90, 95, 113, 137, 145, 146, 153, 157, 168, 178, 194, 195, 196, 204, 205, 209, 225, 227, 235, 241, 261, 265, 266, 275, 280, 282, 285, 286, 289, 294, 299, 310, 311, 315, 321, 328, 331, 340, 341
*D > D1	21'	21'	45'	55	33	33	45'	21'	45'	21'/31'	12, 27, 31, 41, 48, 61, 73, 80, 101, 103, 142, 155, 156, 159, 184, 190, 218, 226, 229, 232, 237, 243, 246, 251, 254, 255, 288
> D2	21'	21'	45'	55	33	33	45'	21'	45'	21'/31'	7, 36, 63, 106, 111, 119, 141, 163, 236, 284, 309, 316, 335
> D3	45'	45'	21'	33	11	33	21'	11 [~]	21'	33'/45'	1, 20, 33, 78, 96, 101, 104, 106, 107, 108, 115, 116, 117, 139, 154, 174, 192, 214, 217, 230, 260, 267, 308, 317

5 PK phonology

The following PK phoneme inventory is based on the data presented in the previous section.

Onsets

<i>Category I (High series):</i>				*Vl. aspirated stops		*ph	*th	*ch	*kh	
				*Vl. nasals		*hm(ṃ)	*hn(ṇ)	*hɳ(ṇ̊)	*hŋ(ŋ̊)	
				*Vl. fricatives		*s		*h		
				*Vl. approximants		*hw(ṵ)	*hl(l̥)			
				*Vl. rhotic		*hr(ṛ)				
<i>Category II (Mid series):</i>				*Vl. unaspirated stop			*p	*t	*c	*k
				*Glottal and glottalised stops			*ʔb(6)	*ʔd(6)		*ʔ
				*Glottalised nasal				*ʔn		
				*Glottalised approximants			*ʔw	*ʔl	*ʔj	
<i>Category III (Low series):</i>				*Vd. Stops	*b*	*d	*ʈ	*g		
				*Vd. Nasals	*m	*n	*ɳ	*ŋ		
				*Vd. Approximants		*w	*l	*j		
				*Vd. Rhotic		*r				
<i>Consonant clusters</i>										
*Cw-	*phw	*thw	*chw	*khw	*sw	*hnw	*hrw			
	*pw	*cw	*kw	*ʔbw	*ʔdw	*ʔnw				
	*mw	*dw	*gw	*ɲw						
*Cl-	*phl	*khl	*sl	*pl	*kl	*ʔbl	*bl	*gl	*ml	
*Cr-	*phr	*thr	*chr	*khr	*sr	*pr	*tr	*br	*gr	
*Crw-	*khrw									
*Cj	*chj	*pj	*kj	*ɲj	*rj					

It is noticeable that the reconstructed onsets or initials are quite complex, with a large number of voiceless sonorants, glottalised sonorants and consonant clusters. This is due to the fact that some of the onsets derive from the reductions of the PTB prefixes, infixes, or compounds, in order to become monosyllabic words with tones (Matisoff 1973), which is a process of tonal evolution and tonal development in SEA languages. Having more solid data on Central Karen languages in the future, perhaps in some cases, consonant clusters could be reduced and replaced by a reconstruction of sesquisyllabic words. The following are some of the examples of the reductions mentioned above:¹⁶

- PTB *g/b/m-la-y > PK *bla^B ‘arrow’
 PTB *s-hywəy, *s-hwiw > PK *swi^B ‘blood’
 PTB *b-r-gyat > *b-g-ryat > PK *grət^D ‘eight’
 PTB *b-wa > PK *ʔbwa^A ‘white’
 PTB *m-/s-lay ‘tongue’ > PK *hlaj^B ‘lick’
 PTB *g-p^wa, *r-p^wa, *r-wa > PK *hwa^B ‘bamboo’
 PTB *b-rey > PK *bre^A ‘buy’
 PTB *s-ley > PK *hli^B ‘squirrel’
 PTB *s-ni(:) ɲ > PK *hneɲ^B ‘year’

¹⁶ More examples are to be found in the seventh section of this paper.

Rhymes

Two types of rhyme were reconstructed, i.e. *-V and *-VC and among *-C are *-m, *-n, *-ŋ, *-N¹⁷, *-j, *-w (*-p),¹⁸ *-t, *-k, *-K, *-ʔ.

Based on my own field data and the data drawn from Henderson (1997), 57 rhymes were reconstructed. They can be divided into four types, as follows:¹⁹

- Type I: *-i *-e *-ɛ *-ī *-ə *-a *-u *-o *-ɔ
 Type II: *-im *-in *-iŋ *-eŋ *-eN *-em *-en *-eŋ *-eN *-im̄ *in̄ *-iŋ̄ *-iN̄
 *-əm̄ *-əŋ̄ *-əN̄ *-am̄ *-aŋ̄ *-aN̄ *-un̄ *-uŋ̄ *-uN̄ *-om̄ *-oŋ̄ *-oŋ̄ *-oN̄
 Type III: *-ej *-ej̄ *-aj̄ *-aw̄ *-ow̄
 Type IV: *-iʔ *-it̄ *-ik̄ *-eʔ̄ *-ek̄ *-ɛʔ̄ *-əʔ̄ *-aʔ̄ *-at̄ *-uʔ̄ *-uk̄ *-oʔ̄
 *-ot̄ *-ok̄ *-ɔʔ̄ *-ɔt̄

Among the 57 PK rhymes listed above, the rhymes having the *-a vowel were reconstructed with more confidence due to the neat patterns of correspondences.

Tones

Three tones, i.e. *A, *B and *D, were reconstructed. The correspondences of tones in modern Karenic language varieties are illustrated in Table 3 and Figure 4. The *A and *B tones occur in non-checked syllables while the *D tone occurs in checked syllables. Resulting from the eight patterns of tonal correspondences presented in Luce (1959) and the concept of tone-box adopted, the *B' tone (equivalent to the *C tone in Tai languages) was reconstructed to solve the tonal problems in a small number of words, e.g. 'pus, paddy, blow, breathe, many, child,' etc., which have tone A in Sgaw but tone B in Pwo. In my opinion, perhaps it is too early to reconstruct the *B' tone (or *C). When carefully looking at the tone boxes in Shintani (2003) and Manson (2009), it is amazing to see that the so-called B' tone in modern Karenic languages has completely merged with the A, B or D tone, unlike the *C tone in Tai languages and dialects spoken both inside and outside Thailand and in the Mien or Yao languages spoken in Thailand and Guangxi province, southern China, which I had the opportunity to work on during our several field trips in China, Laos and Vietnam (see L-Thongkum 1991, 1993, 1997; Kullavanijaya & L-Thongkum 2000). I feel that the development of the PK *B', based on the tone-box concept proposed by Shintani and Manson, does not sound convincing, even though their views can be traced back to Haudricourt's proposal in 1975. The uncommon type of tone splitting of the B tone in some Sgaw varieties, e.g. the PK tone *B > B13-2 (CV²¹) and *D > D12 (CV⁴⁵) – 3 (CV⁵³) may be a reason why the *B' tone was added. In my opinion, the reconstructed three tones, namely, *A, *B and *D are sufficient to handle an unusual development of tones B and D in some Sgaw varieties. Even though the addition of the *B' tone can help make the reconstruction of the proto tones in some PK roots possible, I am still reluctant to accept this idea. There might be a better solution, if we could reach more fresh data, especially on the Karenic languages spoken in Myanmar.

¹⁷ *-N and *-K in the rhymes *-VN and *-VK are neither a uvular nasal [N] nor a uvular stop [-q]; -K means 'one of the nasals, i.e. *-m, *-n or *-ŋ and -K means one of the final stops, i.e. *-p, *-t or *-k.

¹⁸ The rhyme -ap only occurs in S.Pa-O. It corresponds to -at in N.Pa-O.

¹⁹ See more detail in Table 2.

Figure 4: Proto-Karen tones and their tonal developments in modern Karenic languages

N. Pa-O				S. Pa-O			
	*A	*B	*D		*A	*B	*D
1	31 [~]	55	21 [']	1	31 [~]	33	21 [']
2	31 [~]	55	21 [']	2	31 [~]	33	21 [']
3	33	53	45 [']	3	53	55	45 [']

Kayan				E. Kayah			
	*A	*B	*D		*A	*B	*D
1	53	11	45 [']	1	33	11	55
2	53		45 [']	2	33	11	55
3	33		21 [']	3	11	11	33

W. Bwe				Kayaw			
	*A	*B	*D		*A	*B	*D
1	55	33	33	1	55	11	33
2	55	33	33	2	55	11	33
3	33	33	11	3	33	11	33

N. Sgaw				S. Sgaw			
	*A	*B	*D		*A	*B	*D
1	33	31 [~]	45 [']	1	55	45 [']	21 [']
2	33	31 [~]	45 [']	2	55	45 [']	21 [']
3	33	11 [~]	21 [']	3	33	31	11 [~]

N. Pwo				S. Pwo			
	*A	*B	*D		*A	*B	*D
1	35	33	45 [']	1	53	55	21 [']
2	55	33	45 [']	2	31 [~]	55	21 [']
3	55	11 [~]	21 [']	3	31 [~]	33	45 [']

6 PK Lexicon

Based on the correspondences of the onsets, rhymes and tones as shown in Figures 1-3 and the reconstructed PK phonology in the fifth section, a PK lexicon consisting of 341 roots was reconstructed as presented in this section. The PK roots are arranged according to the alphabetical order of the English glosses (A-Z) with *all* as the first item and *young* as the last item. For comparison, the reconstructed forms by Burling (1969) are also given since his reconstruction, although different, equates to mine in some respects, such as the tones: 1=B3; 2=B12; 3=A2/A3; 4=A1/A12; ?1=D3; ?2=D12 and so forth.

Abbreviations and symbols

PK = Proto-Karen	KW = Kayaw
NK = Northern Karen	N.SG. = Northern Sgaw
CK = Central Karen	S.SG = Southern Sgaw
SK = Southern Karen	N.PW = Northern Pwo
N.PO = Northern Pa-O	S.PW = Southern Pwo
S.PO = Southern Pa-O	RB = Robins Burling
KN = Kayan	*- CV= Part of a compound (only Bwe)
KH = Kayah	*- CV= Preceded by an affix /sesquisyllable
BW = Western Bwe	*~CV/ *CV~ Part of a compound (except Bwe)

Lexicon

1. 'all, all gone, whole' **PK: *loʔ^D**
 NK: loʔ⁴⁵ (N.PO), luʔ⁴⁵ (S.PO)
 CK: loʔ³³ (KN); loʔ³³ (KH); - (BW); loʔ³³ (KW)
 SK: (khɛ³³)loʔ²¹ (N.SG), lou¹¹ (S. SG); lauʔ²¹ (N.PW), louʔ⁴⁵ (S.PW)
2. 'ant' **PK: *dɔŋ^B**
 NK: tɔŋ⁵³ (N.PO), tɔŋ⁵⁵ (S.PO)
 CK: tɔ¹¹ (KN); tɔ¹¹ (KH); do³³ (aw); tɔ¹¹ (KW)
 SK: tɔ¹¹ (N.SG), tɔ³¹ (S. SG); thã¹¹ (N.PW), thã³³ (S.PW)
3. 'arrive' **PK: *tə^B *thy³ (RB)**
 NK: tə⁵⁵ (N.PO), tə³³ (S.PO)
 CK: tə¹¹ (KN); to¹¹ (KH); do³³ (BW); tə¹¹ (KW)
 SK: ti³³ (N.SG), ti⁴⁵ (S.SG); tho³³ (N.PW), tho³¹ (S.PW)
 Note: N.Sgaw and S.Pwo have tone A instead of tone B. The two varieties of Pwo have irregular vowels.
4. 'arrow, dart' **PK: *bla^B *phla¹ (RB)**
 NK: pla⁵⁵ (N.PO), pla³³ (S.PO)
 CK: pla¹¹ (KN); pla¹¹ (KH); blɛ³³ (BW); plɛ¹¹ (KW)
 SK: pla¹¹ (N.SG), pla³¹ (S.SG); pla¹¹ (N.PW), phla³³ (S.PW)
 Note: Irregular vowels in Kayah (KH) and Kayaw (KW), i.e. they should be /e/ and /a/ in KH and KW, respectively. S.Karen (SK) tones suggest *bl-, while those in N.Karen (NK) indicate *pl-.
5. 'ascend, go up, rise' **PK: *thaŋ^B *thaŋ² (RB)**
 NK: thaŋ⁵⁵ (N.PO), thaŋ³³ (S.PO)
 CK: thaŋ¹¹ (KN); the¹¹ (KH); tha³³ (BW); ho¹¹ (KW)
 SK: tho³¹ (N.SG), tho⁴⁵ (S.SG); thẽ³³ (N. PW), thõ⁵⁵ (S.PW)
6. 'ashes, fireplace' **PK: *pha^B**
 NK: pha⁵⁵ (N.PO), pha³³ (S.PO)
 CK: pha¹¹ (KN), phe¹¹ (KH); - (BW), pha¹¹ (KW)
 SK: pha³¹ (N.SG), pha⁴⁵ (S.SG); - (N.PW), - (S.PW)
 Note: In some N.Sgaw varieties *phla¹¹ ~ pha¹¹* means 'fireplace'.
7. 'astringent' **PK: *kjaʔ^D *khiʔ¹ (RB)**
 NK: khjaʔ²¹ (N.PO), - (S.PO)
 CK: khiʔ⁴⁵ (KN); khja⁵⁵ (KH); - (BW); - (KW)
 SK: kiʔ⁴⁵ (N.SG), kaiʔ²¹ (S.SG); kaiʔ⁴⁵ (N.PW), kaiʔ³¹ (S.PW)

8. ‘bamboo’ **PK: *hwa^B *wa² (RB)**
 NK: wa⁵⁵ (N.PO), wa³³ (S.PO)
 CK: hwa^{11~}hau¹¹ (KN); we¹¹ (KH); ho³³ (BW); - (KW)
 SK: wa^{31~} (N.SG), wa^{45~} (S.SG); wa³³ (N.PW), wa⁵⁵ (S.PW)
9. ‘bamboo rat’ **PK: *(jow^B)khan^A**
 NK: (ju⁵⁵)khan^{31~} (N.PO), - (S.PO)
 CK: ju¹¹khan⁵³ (KN); - (KH); khe⁵⁵ (BW); (ju¹¹)kho⁵⁵ (KW)
 SK: kho³³ (N.SG), kho⁵⁵ (S.SG); khẽ³⁵ (N.PW), khõ⁵³ (S.PW)
10. ‘bamboo strip’ **PK: *sra^A**
 NK: sa^{31~} (N.PO), sa^{31~} (S.PO)
 CK: θa⁵³ (KN); se³³ (KH); θre^{55~}θa⁵⁵re⁵⁵ (BW); sa⁵⁵ (KW)
 SK: ɛya³³ (N.SG), ɛya⁵⁵ (S.SG); sja³⁵ (N.PW), θa⁵³ (S.PW)
11. ‘bamboo shoot’ **PK: *ʔbaŋ^B**
 NK: baŋ⁵⁵ (N.PO), baŋ³³ (S.PO)
 CK: baŋ¹¹ (KN); be¹¹ (KH); ɛa³³ (BW), bɔ¹¹ (KW)
 SK: bɔ^{31~} (N.SG), bɔ^{45~} (S.SG); bẽ³³ (N.PW), bõ⁵⁵ (S.PW)
12. ‘bark (n.), leather, skin’ **PK: *phe^ʔ *phi^ʔ (RB)**
 NK: phe^{ʔ21} (N.PO), - (S.PO)
 CK: - (KN); pha⁵⁵ (KH); phe³³ (BW); phe³³ (KW)
 SK: phi^{ʔ45} (N.SG), phai^{ʔ21} (S.SG); phai^{ʔ45} (N.PW), phai^{ʔ31} (S.PW)
13. ‘bat’ **PK: *pla^{A/B}**
 NK: pla^{31~} (N.PO), pla^{31~} (S.PO)
 CK: bla¹¹ (KN); ple¹¹ (KH); plɛ¹¹ (BW); pla¹¹ (KW)
 SK: bla³³ (N.SG), bla⁵⁵ (S.SG); phla³³ (N.PW), phla⁵⁵ (S.PW)
 Note: Pa-O and Sgaw have tone A while C.Karen (CK) languages and Pwo have tone B. *pl- has become bl- in Sgaw.
14. ‘bathe’ **PK: *hlow^B**
 NK: lu⁵⁵ (N.PO), lu³³ (S.PO)
 CK: - (KN); lo¹¹ (KH); - (BW); lu¹¹ (KW)
 SK: li^{11~}lu^{11~} (N.SG), li^{45~} (S.SG); lou³³ (N.PW), (ʔõ⁵⁵)lou⁵⁵ (S.PW)
 Note: N.Sgaw has the B3 tone while S. Sgaw has the B1 tone as in Pwo and Pa-O.
15. ‘bear (animal)’ **PK: *tham^A *tham⁴ (RB)**
 NK: tham^{31~} (N.PO), tham^{31~} (S.PO)
 CK: thaŋ⁵³ (KN); the³³ (KH); the⁵⁵ (BW); tho⁵⁵ (KW)
 SK: - (N.SG), - (S.SG); (phi¹¹) thõ³⁵ (N.PW), (phou⁵³)thõ⁵³ (S.PW)
16. ‘bedbug’ **PK: *gram^A**
 NK: sam^{33~}ɛam³³ (N.PO), sam^{53~}saŋ⁵³ (S.PO)
 CK: caŋ³³ (KN); khre¹¹ (KH); - (BW); cɔ³³ (KW)
 SK: xɔ³³ (N.SG), xɔ³³ (S.SG); - (N.PW), - (S.PW)
17. ‘bee (Apis cerana)’ **PK: *kwat^D**
 NK: wat²¹ (N.PO), wat²¹ (S.PO)
 CK: hwe^{ʔ45} (KN); we⁵⁵ (KH); we^{33~}θa⁵⁵kwe⁵⁵ (BW); hwe^{33~}khwe³³ (KW)
 SK: kwe^{ʔ45} (N.SG), kwe⁵⁵ (S.SG); kwe⁵⁵ (N.Pwo), kwe^{31~} (S.PWO)
 Note: This etymon has irregular tone change, i.e. *D has become tone A in S.Sgaw and Pwo. Perhaps, the final *-t had been dropped much earlier, then the *D tone became the *A tone.
18. ‘bee (Apis dorsata)’ **PK: *k-hne^A**
 NK: ne^{31~} (N.PO), ne^{31~} (S.PO)
 CK: nai⁵³ (KN); ni³³ (KH); (gə) ni³³ (BW); ni⁵⁵ (KW)
 SK: kə¹¹ne³³ (N.SG), ne⁵⁵ (S.SG); ni³⁵ (N.PW), ni⁵³ (S.PW)
19. ‘believe’ **PK: *jim^B**
 NK: jum⁵³ (N.PO), jəm^{55~}jən⁵⁵ (S.PO)
 CK: ji¹¹ (KN); ji¹¹ (KH); - (BW); ji¹¹ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW); - (S.PW)

20. ‘below, under, underneath’ **PK: *~laʔ^B**
 NK: (ka³³) laʔ⁴⁵ (N.PO), laʔ⁴⁵ (S.PO)
 CK: laʔ⁴⁵ (KN); le³³ (KH); gɔ¹¹le¹¹, -le¹¹ (BW); lo³³ (KW)
 SK: pho³³laʔ²¹ (N.SG), ka¹¹la¹¹ (S.SG); chaʔ⁴⁵laʔ²¹ (N.PW), pho⁵³laʔ⁴⁵ (S.PW)
21. ‘big, large’ **PK: *ʔdo^B *do² (RB)**
 NK: - (N.PO), - (S.PO)
 CK: dau¹¹ (KN); du¹¹ (KH); do³³ (BW); du¹¹ (KW)
 SK: do³¹ (N.SG), du⁴⁵ (S.SG); du³³ (N.PW), du⁵⁵ (S.PW)
22. ‘bird’ **PK: *tho^B *tho² (RB)**
 NK: - (N.PO), - (S.PO)
 CK: thau¹¹ (KN); thu¹¹ (KH); tho³³ (BW); thu¹¹ (KW)
 SK: tho³¹ (N.SG), thu⁴⁵ (S.SG); thu³³ (N.PW), thu⁵⁵ (S.PW)
 Note: The words meaning ‘bird’ in N.PO and S.PO are wa⁵³(B3) and wa⁵⁵(B3), respectively.
23. ‘bite (v.)’ **PK: *ʔɛN^B *ʔɛɲ² (RB)**
 NK: ʔɛɲ⁵⁵ (N.PO), ʔɛm³³~ʔɛn³³ (S.PO)
 CK: ʔi¹¹ (KN); ʔa¹¹ (KH); - (BW); - (KW)
 SK: ʔe³¹ (N.SG), ʔi⁴⁵ (S.SG); ʔai³³ (N.PW), ʔai⁵⁵ (S.PW)
24. ‘bitter’ **PK: *kha^B *kha² (RB)**
 NK: kha⁵⁵ (N.PO), kha³³ (S.PO)
 CK: kha¹¹ (KN); khe¹¹ (KH); khe³³ (BW); kha¹¹ (KW)
 SK: kha³¹ (N.SG), kha⁴⁵ (S.SG); kha³³ (N.PW), kha⁵⁵ (S.PW)
25. ‘blood’ **PK: *swi^B *swi² (RB)**
 NK: swi⁵⁵ (N.PO), swi³³ (S.PO)
 CK: θwi¹¹ (KN); swi¹¹ (KH); θwi³³, θu³³ (BW); su¹¹ (KW)
 SK: (ta¹¹)swi³¹ (N.SG), swi⁴⁵ (S.SG); swi³³ (N.PW), θwi⁵⁵ (S.PW)
26. ‘blow (a fire)’ **PK: *ʔu^A *ʔu⁴ (RB)**
 NK: ʔu³¹ (N.PO), ʔu³¹ (S.PO)
 CK: ʔu⁵³ (KN); ʔu³³ (KH); u³³ (BW); ʔu⁵⁵ (KW)
 SK: ʔu³³ (N.SG), ʔu⁵⁵ (S.SG); ʔu⁵⁵ (N.PW), ʔu³¹ (S.PW)
27. ‘boar (wild~)’ **PK: *thoʔ^Bmi^A**
 NK: thoʔ²¹mi³³ (N.PO), thoʔ²¹mi⁵³ (S.PO)
 CK: thauʔ⁴⁵mi³³ (KN); the⁵⁵mi¹¹ (KH); - (BW); tho³³mi³³ (KW)
 SK: thoʔ⁴⁵mi³³ (N.SG), thoʔ²¹mi³³ (S.SG); thoʔ⁴⁵mei⁵⁵ (N.PW), thuʔ²¹mei³¹ (S.PW)
28. ‘boat’ **PK: *klej^A *khli⁴ (RB)**
 NK: phri³¹ (N.PO), pli³¹ (S.PO)
 CK: - (KN); klə³³ (KH); khli³³ (BW); kli⁵⁵ (KW)
 SK: khli³³ (N.SG), khli⁵⁵ (S.SG); khlei³⁵ (N.PWO), khlei⁵³ (S.PWO)
 Note: *kl- has become *phr-* and *pl-* in N.Pa-O and S.Pa-O. respectively.
29. ‘body dirt’ **PK: *khrej^B *xi² (RB)**
 NK: khri⁵⁵ (N.PO), khri³³ (S.PO)
 CK: - (KN); khrə¹¹ (KH); - (BW); ci¹¹ (KW)
 SK: xi³¹ (N.SG), xi⁴⁵ (S.SG); kei³³ (N.PW), kei⁵⁵ (S.PW)
30. ‘boil (v.)’ **PK: *phrə^A**
 NK: - (N.PO), - (S.PO)
 CK: pho⁵³ (KN); pho³³ (KH); a⁵⁵phrə³³ (BW); pho⁵⁵ (KW)
 SK: khlo³³ (N.SG), pho⁵⁵ (S.SG); pho³⁵ (N.PW), pho⁵³ (S.PW)
31. ‘bone’ **PK: *khrwit^B *xwi⁴ (RB)**
 NK: chut²¹ (N.PO), chəut²¹ (S.PO)
 CK: chwi⁴⁵ (KN); khrwi⁵⁵ (KH); -khw³³ (BW); chu³³ (KW)
 SK: xi³³ (N.SG), (ta¹¹)xi⁵⁵ (S.SG); (ʔaʔ²¹) xei³³ (N.PW), xwi⁵⁵ (S.PW)
 Note: This etymon has irregular tone changes in SK, i.e. tone A in Sgaw and tone B in Pwo, while it is still tone D in NK and CK. The final *-t might have been dropped very early; consequently, the tones in Sgaw and Pwo have developed differently.

32. 'braid' **PK: *srej^B *si²** (RB)
 NK: si⁵⁵ (N.PO), si³³ (S.PO)
 CK: - (KN); sə¹¹ (KH); θre³³ (BW); si¹¹ (KW)
 SK: si³¹ (N.SG), - (S.SG); sei³³ (N.PWO), θei⁵⁵ (S.PWO)
33. 'brain' **PK: *nok^D *kho²nu²¹** (RB)
 NK: (ʔu⁵⁵)nok⁴⁵ (N.PO), (ʔa²¹)nu²¹ (S.PO)
 CK: nɔ²¹ (KN), (ku¹¹)nɔ³³ (KH); -no¹¹ (BW); (kə³³)nə³³ (KW)
 SK: (kho³¹)nu²¹ (N.SG), (khu⁴⁵)nɔ¹¹ (S.SG); (khu³³)nau²¹ (N.PW), (khu⁵⁵) nɔu²¹ (S.PW)
34. 'bran, chaff' **PK: *phe^A *phe⁴** (RB)
 NK: phe³¹ (N.PO), phe³¹ (S.PO)
 CK: phai⁵³ (KN); phi³³ (KH); - (BW); phi⁵⁵ (KW)
 SK: phe³³ (N.SG), phe⁵⁵ (S.SG); phi³⁵ (N.PW), phi⁵³ (S.PW)
35. 'breasts' **PK: *nu^B *ny¹** (RB)
 NK: - (N.PO), - (S.PO)
 CK: nu¹¹ (KN); (ʔi¹¹)nu¹¹ (KH); nu³³ (BW); nu¹¹ (KW)
 SK: nu¹¹ (N.SG), nu³¹ (S.SG); nɔu¹¹ (N.PW), nu³³ (S.PW)
36. 'broken, split, separate' **PK: *pa^{2D} *pha²²** (RB)
 NK: pa²¹ (N.PO), pa²¹ (S.PO)
 CK: pha⁴⁵ (KN); phe⁵⁵ (KH); pha³³ (BW); phɔ³³ (KW)
 SK: pha⁴⁵ (N.SG), pha²¹ (S.SG); pha⁴⁵ (N.PW), pha²¹ (S.PWO)
37. 'buffalo' **PK: *p/b-na^B *pə²na¹** (RB)
 NK: pa²¹na⁵³ (N.PO), pa²¹na⁵⁵ (S.PO)
 CK: bu⁴⁵na¹¹ (KN); pe⁵⁵ne¹¹ (KH); bə³³ne³³ (BW); pa³³na¹¹ (KW)
 SK: pə³³na¹¹ (N.SG), pə¹¹na³¹ (S.SG); pa²¹ne¹¹ (N.PW); pə²¹na³³ (S.PWO)
38. 'buy' **PK: *bre^A *phye³** (RB)
 NK: phre³³ (N.PO), phre⁵³ (S.PO)
 CK: prai³³ (KN); phri¹¹ (KH), a⁵⁵bwi³³ (BW); pri³³ (KW)
 SK: pə¹¹ye³³~pye³³ (N.SG), pye³³ (S.SG); - (N.PW); - (S.PW)
39. 'caress' **PK: *phru^{NA}**
 NK: phri⁵⁵ (N.PO), pwəm³³ (S.PO)
 CK: phwaŋ⁵³ (KN); phi³³ (KH); - (BW); phu⁵⁵ (KW)
 SK: phyu³³ (N.SG), phu⁵⁵ (S.SG); phā³⁵ (N.PW), phō⁵⁵ (S.PW)
 Note: It is noticeable that NK has tone B while CK and SK have tone A.
40. 'carry (on the back)' **PK: *pi^B *phy²** (RB)
 NK: - (N.PO), - (S.PO)
 CK: - (KN); - (KH); phu³³ (BW); phi¹¹ (KW)
 SK: - (N.SG), phi⁴⁵ (S.SG); pəi³³ (N.PW), pi⁵⁵ (S.PW)
41. 'caterpillar' **PK: *si^{2D}**
 NK: se²¹ (N.PO), si²¹ (S.PO)
 CK: θi⁴⁵ (KN); si⁵⁵ (KH); θa³³ (BW); si³³ (KW)
 SK: si⁴⁵ (N.SG), sai²¹ (S.SG); si³⁵ (N.PW), θai²¹, θei²¹ (S.PW)
 Note: N.Pwo has tone A which is irregular.
42. 'catfish' **PK: *~ku^{A/B}**
 NK: khu³¹ (N.PO), khu³¹ (S.PO)
 CK: ku⁵³ (KN); ku¹¹ (KH); - (BW), ku¹¹ (KW)
 SK: - (N.SG), ku⁴⁵ (S.SG); - (N.PW), ku⁵⁵ (S.PW)
 Note: NK and Kayan (CK) have tone A while the rest have tone B.
43. 'carapace, shell' **PK: *ki^A**
 NK: - (N.PO); - (S.PO)
 CK: ko⁵³ (KN); ʔa¹¹kɔ³³ (KH); ko⁵⁵ (BW); ʔa¹¹ki⁵⁵ (KW)
 SK: ki⁴⁵ (N.SG), ki⁵⁵ (S.SG); ʔa¹¹kou⁵⁵ (N.PW), ku³¹ (S.PW)
 Note: Kayan has an irregular vowel, /o/ instead of /i/. N.Sgaw also has an irregular tone, tone D.

44. ‘centipede’ **PK: *t/daʔ^hbaŋ^A *daʔ^hbaŋ³** (RB)
 NK: taʔ⁴⁵baŋ^{31~} (N.PO), taʔ⁴⁵baŋ^{31~} (S.PO)
 CK: ta¹¹baŋ⁵³ (KN); - (KH); - (BW); - (KW)
 SK: daʔ⁴⁵bɔ³³ (N.SG), da¹¹bɔ⁵⁵ (S.SG); - (N.PW), daʔ⁴⁵bɔ^{31~} (S.PW)
45. ‘chameleon’ **PK: *kwi^B**
 NK: kwi⁵⁵ (N.PO), kwi³³ (S.PO)
 CK: khwi¹¹ (KN); khwi¹¹ (KH); khwi³³ (BW); khi¹¹ (KW)
 SK: khwi^{31~} (N.SG), khwi^{45~} (S.SG); khwi³³ (N.PW), khwi⁵⁵ (S.PW)
46. ‘charcoal’ **PK: *swa^B *swa²** (RB)
 NK: swa⁵⁵ (N.PO), swa³³ (S.PO)
 CK: θau¹¹ (KN); su¹¹ (KH); - (BW); su¹¹ (KW)
 SK: swa^{31~} (N.SG), swa^{45~} (S.SG); swa³³ (N.PW), θwa⁵⁵ (S.PW)
47. ‘chicken’ **PK: *chjaN^A *chjaN⁴** (RB)
 NK: ɕja^{31~} (N.PO), ɕja^{31~} (S.PO)
 CK: ɕi⁵³ (KN); cha³³ (KH); ʃi⁵⁵ (BW); ɕi⁵⁵ (KW)
 SK: chɔ³³ (N.SG), chɔ⁵⁵ (S.SG); chẽ³⁵ (N.PW), chɔ̃⁵³ (S.PW)
 Note: [Proto-Monic: *tyaaŋ, Proto-Mon: *cain (Diffloth, 1984)]
48. ‘chili pepper, pungent’ **PK: *hat^h**
 NK: hat²¹ (N.PO), hap²¹ (S.PO)
 CK: heʔ⁴⁵ (KN); he⁵⁵ (KH); he³³ (BW); he³³ (KW)
 SK: he³³ (N.SG), he⁵⁵ (S.SG); - (N.PW), ʏe⁵⁵ (S.PW)
 Note: NK and CK have tone D while SK languages have irregular tone changes, i.e. *D>A in Sgaw but >B in Pwo.
49. ‘chin, jaw’ **PK: *ka^B *kha²** (RB)
 NK: ka⁵⁵ (N.PO), ka³³ (S.PO)
 CK: ka¹¹ (KN); khe¹¹ (KH); khe³³ (BW); kha¹¹ (KW)
 SK: kha^{31~} (N.SG), kha^{45~} (S.SG); kha³³ (N.PW), kha⁵⁵ (S.PW)
 Note: [Thai: *khaaŋ*³³]
50. ‘cicada’ **PK: *ŋja^A**
 NK: ŋja³³ (N.PO), - (S.PO)
 CK: ji³³ (KN); ja¹¹ (KH); - (BW); - (KW)
 SK: je³³, ze³³ (N.SG), - (S.SG); jai⁵⁵ (N.PW), jai^{31~} (S.PW)
51. ‘civet cat’ **PK: *thu^B**
 NK: - (N.PO), - (S.PO)
 CK: thu¹¹ (KN); - (KH); thu³³ (BW); thu¹¹ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), thu^{ʔ21}thɔ̃^{31~}; thu⁵⁵thɔ̃¹¹ (S.PW)
52. ‘classifier (hand of bananas)’ **PK: *sej^B**
 NK: si⁵⁵ (N.PO), si³³ (S.PO)
 CK: θi¹¹ (KN); sɔ̃¹¹ (KH); - (BW); si¹¹ (KW)
 SK: si^{31~} (N.SG), si^{45~} (S.SG); sei³³ (N.PW), - (S.PW)
53. ‘classifier for flat objects’ **PK: *ʔba^B**
 NK: ba⁵⁵ (N.PO), ba³³ (S.PO)
 CK: ba¹¹ (KN); be¹¹ (KH); - (BW); ba¹¹ (KW)
 SK: be^{31~} (N.SG), bi^{45~} (S.SG); bai³³ (N.PW), bai⁵⁵ (S.PW)
 Note: The correspondence pattern of rhymes in SK suggests *ʔbaj^B [Thai: *baj*³³]
54. ‘classifier for people, persons’ **PK: *bra^A *ɣa³** (RB), *phwa³ ‘person’ (RB)
 NK: phra³³ (N.PO), pra⁵³ (S.PO)
 CK: pra³³ (KN); phre¹¹ (KH); - (BW); ra³³ (KW)
 SK: pya³³ (N.SG), ɣa³³ (S.SG); ɣa⁵⁵ (N.PW), ɣa^{31~} (S.PW)
55. ‘classifier for a piece of meat, cake, etc.’ **PK: *ploŋ^B *loŋ²** (RB)
 NK: loŋ⁵⁵ (N.PO), - (S.PO)
 CK: - (KN); plo¹¹ (KH); - (BW); plo¹¹ (KW)
 SK: lo^{31~} (N.SG), lu^{45~} (S.SG); lɔ̃³³ (N.PW), lɔ̃⁵⁵ (S.PW)

56. ‘classifier for plants, e.g. bamboo, rice, banana etc. (clumps, clusters)’
PK: *kho^B
 NK: - (N.PO), - (S.PO)
 CK: khau¹¹ (KN); - (KH); - (BW); - (KW)
 SK: kho^{31~} (N.SG), khu^{45~} (S.SG); khu³³ (N.PW), khu⁵⁵ (S.PW)
57. ‘classifier for round objects’ **PK: *phloŋ^B *phloŋ² (RB)**
 NK: phloŋ⁵⁵ (N.PO), phloŋ³³ (S.PO)
 CK: phləu¹¹ (KN); phlə¹¹ (KH); - (BW); phlə¹¹ (KW)
 SK: phlə^{31~} (N.SG), phli^{45~} (S.SG); phlău³³ (N.PW), phlôu⁵⁵ (S.PW)
58. ‘classifier for long objects’ **PK: *ʔboN^A *boŋ³ (RB)**
 NK: - (N.PO), - (S.PO)
 CK: bo⁵³ (KN); bo³³ (KH); - (BW); bo⁵⁵ (KW)
 SK: bo³³ (N.SG), bu⁵⁵ (S.SG); bō⁵⁵ (N.PW), bō^{31~} (S.PW)
59. ‘classifier for four-legged animals’ **PK: *ʔdə^A**
 NK: - (N.PO), - (S.PO)
 CK: dəi⁵³ (KN); do³³ (KH); - (BW); də⁵⁵ (KW)
 SK: di³³ (N.SG), di⁵⁵ (S.SG); dəi⁵⁵ (N.PW), di^{31~} (S.PW)
60. ‘close (one’s eyes)’ **PK: *ʔbi^B *bin² (RB)**
 NK: - (N.PO), - (S.PO)
 CK: bi¹¹ (KN); - (KH); - (BW); bi¹¹ (KW)
 CK: bi^{31~} (N.SG), bi^{45~} (S.SG); bei³³ (N.PW), bei⁵⁵ (S.PW)
61. ‘comb (v.)’ **PK: *khwi^D *khwi⁴ (RB)**
 NK: khut²¹ (N.PO), - (S.PO)
 CK: khi^{ʔ45} (KN); khwi⁵⁵ (KH); khwi³³ (BW); khi³³ (KW)
 SK: khwi³³ (N.SG), khwi⁵⁵ (S.SG); khwi³⁵ (N.PW), khwi⁵³ (S.PW)
 Note: The SK tones suggest tone *A in PK.
62. ‘cotton thread’ **PK: *hlow^B *ly² (RB)**
 NK: lu⁵⁵ (N.PO), lu³³ (S.PO)
 CK: lu¹¹ (KN); lo¹¹ (KH); lu³³ (BW); lu¹¹ (KW)
 SK: li^{31~} (N.SG), li^{45~} (S.SG); lou³³ (N.PW), lou⁵⁵ (S.PW)
63. ‘cough (v.)’ **PK: *kuk^D *ku^{ʔ2} (RB)**
 NK: (ta^{ʔ21}he⁵⁵) khuk²¹ (N.PO), - (S.PO)
 CK: khu^{ʔ45} (KN); khi⁵⁵ (KH); θə⁵⁵khu³³ (BW); khi³³ (KW)
 SK: ku^{ʔ45} (N.SG), kəu^{ʔ21} (S.SG); kau^{ʔ45} (N.PW), kəu^{ʔ31} (S.PW)
64. ‘crab’ **PK: *chwe^B *chwe² (RB)**
 NK: chwe⁵⁵ (N.PO), chwe³³ (S.PO)
 CK: chwe¹¹ (KN); chwa¹¹ (KH), fwe³³ (BW); che¹¹ (KW)
 SK: chwe^{31~} (N.SG), chwe^{45~} (S.SG); chwe³³ (N.PW), chwe⁵⁵ (S.PW)
65. ‘cricket’ **PK: *s-ki^A**
 NK: ki^{31~} (N.PO), ki^{31~} (S.PO)
 CK: ki⁵³ (KN); ki³³ (KH); - (BW); (de¹¹) ki⁵⁵ (KW)
 SK: sə¹¹ki³³ (N.SG), tə¹¹ki⁵⁵ (S.SG); - (N.PW), - (S.PW)
 Note: ki⁵³ in Kayan is a kind of grub.
66. ‘crocodile’ **PK: s-hma^B *ma² (RB)**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); - (KH); θə³³me³³ (BW); ma¹¹ (KW)
 SK: sə³³ma^{31~} (N.SG), ma^{45~} (S.SG); ma³³ (N.PW), ma⁵⁵ (S.PW)
67. ‘crop (of fowl), gizzard’ **PK: *k-hni^A *nin⁴ (RB)**
 NK: - (N.PO), - (S.PO)
 CK: - (KN), ke³³ni³³ (KH); kə⁵⁵ni⁵⁵ (BW); ki¹¹ni⁵⁵ (KW)
 SK: kə¹¹ni³³ (N.SG), ni⁵⁵ (S.SG); nei³⁵ (N.PW), nei⁵³ (S.PW)

68. ‘cross (v.)’ **PK: *khaN^A**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); khε³³ (KH); - (BW); kho⁵⁵ (KW)
 SK: kho³³ (N.SG), kho⁵⁵ (S.SG); khẽ³⁵ (N.PW), khẽ⁵³ (S.PW)
69. ‘crossbow’ **PK: *klej^B *khli² (RB)**
 NK: khli⁵⁵ (N.PO), kli³³ (S.PO)
 CK: - (KN); klə¹¹ (KH); khli³³ (BW); khli¹¹ (KW)
 SK: khli^{31~} (N.SG), khli^{45~} (S.SG); khlei³³ (N.PW), khlei⁵⁵ (S.PW)
70. ‘crow (v.)’ **PK: *ʔo^B**
 NK: ʔu⁵⁵ (N.PO), ʔu³³ (S.PO)
 CK: - (KN); ʔu¹¹ (KH); ʊ³³ (BW); ʔu¹¹ (KW)
 SK: ʔo^{31~} ʔo³³ (N.SG), ʔu⁵⁵ (S.SG); ʔu³³ (N.PW), ʔẽ^{31~} ʔu⁵⁵ (S.PW)
 Note: Sgaw has tone A while Pwo, NK and CK have tone B.
71. ‘crush (v.)’ **PK: *k-hnoN^B**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); no¹¹ (KH); kə³³no³³ (BW); no¹¹ (KW)
 SK: no^{31~} (N.SG), nu^{45~} (S.SG); nẽ³³ (N.PW), nẽ⁵⁵ (S.PW)
72. ‘cucumber’ **PK: *ʔdej^A *di³ (RB)**
 NK: - (N.PO), di^{31~} (S.PO)
 CK: - (KN); də³³ (KH); di⁵⁵ (BW); di⁵⁵ (KW)
 SK: di³³ (N.SG), di⁵⁵ (S.SG); thei⁵⁵ (N.PW); thei^{31~} (S.PW)
 Note: Pwo has an irregular initial. It should be /d-/ instead of /th-/.
73. ‘dark, late evening’ **PK: *khiʔ^D *khiʔ² (RB)**
 NK: kheʔ²¹ (N.PO), khiʔ²¹ (S.PO)
 CK: khiʔ⁴⁵ (KN); khi⁵⁵ (KH); khi³³ (BW); khi³³ (KW)
 SK: khiʔ⁴⁵ (N.SG), khaiʔ²¹ (S.SG); khaiʔ⁴⁵ (N.PW), khaiʔ³¹ (S.PW)
74. ‘daughter-in-law’ **PK: *ʔdε^B *dε² (RB)**
 NK: - (N.PO), - (S.PO)
 CK: dε¹¹ (KN); dε¹¹ (KH); -dε³³ (BW); dε¹¹ (KW)
 SK: dε^{31~} (N.SG), dε^{45~} (S.SG); dε³³ (N.PW), dε⁵⁵ (S.PW)
75. ‘day’ **PK: *nej^A *ni³ (RB)**
 NK: ni³³ (N.PO), ni⁵³ (S.PO)
 CK: - (KN); nə¹¹ (KH); ni³³ (BW); ni³³ (KW)
 SK: ni³³ (N.SG), ni³³ (S.SG); nei⁵⁵ (N.PW), nei^{31~} (S.PW)
76. ‘dead, die’ **PK: *sej^A *si⁴ (RB)**
 NK: si^{31~} (N.PO), si^{31~} (S.PO)
 CK: θi⁵³ (KN); sə³³ (KN); θi⁵⁵ (BW); si⁵⁵ (KW)
 SK: si³³ (N.SG), si⁵⁵ (S.SG); sei³⁵ (N.PW), θei⁵³ (S.PW)
77. ‘deaf’ **PK: *ʔəŋ^A**
 NK: ʔəŋ^{31~} (N.PO), ʔəŋ^{31~} (S.PO)
 CK: ʔəŋ⁵³ (KN); ʔə³³ (KH); tə^{o55} (BW); ʔə⁵⁵ (KW)
 SK: ʔə³³ (N.SG), ʔə⁵⁵ (S.SG); ʔă⁵⁵ (N.PW), ʔẽ^{31~} (S.PW)
78. ‘deep’ **PK: *joʔ^D *joʔ¹ (RB)**
 NK: joʔ⁴⁵ (N.PO), joʔ⁴⁵ (S.PO)
 CK: ʃauʔ²¹ (KN); jε³³ (KH); jo¹¹ (BW); - (KW)
 SK: joʔ²¹ (N.SG), jo^{11~} (S.SG); joʔ²¹ (N.PW), juʔ⁴⁵ (S.PW)
79. ‘deer (barking~)’ **PK: *d-khej^A**
 NK: khi^{31~} (N.PO), khi^{31~} (S.PO)
 CK: khi⁵³ (KN); khə³³ (KH); do¹¹khi⁵⁵ (BW); khi⁵⁵ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)

80. ‘deer (sambha ~)’ **PK: *t-khroʔ^B**
 NK: khjoʔ²¹ (N.PO), khjoʔ²¹ (S.PO)
 CK: khjoʔ⁴⁵ (KN); khro⁵⁵ (KH); kho³³ (BW); khə³³ (KW)
 SK: ta³³xo³³ (N.SG), tho³³xo⁵⁵ (S.SG); ta³³xo⁵⁵ (N.PW), chə³³xo³¹ (S.PW)
 Note: In SK, the rhyme *-oʔ^D has become -ɔʔ^A (SG, N.PW) and -oʔ^A (S.PW).
81. ‘delicious’ **PK: *ʔwi^B**
 NK: ʔwi⁵⁵ (N.PO), ʔwi³³ (S.PO)
 CK: ʔwi¹¹ (KN); wi¹¹ (KH); - (BW); wi¹¹ (KW)
 SK: kwi²¹ (N.SG), - (S.SG); ʔwi³³ (N.PW), ʔwi⁵⁵ (S.PW)
82. ‘descent, go down, set’ **PK: *laŋ^A *laŋ³ (RB)**
 NK: laŋ³³ (N.PO), laŋ⁵³ (S.PO)
 CK: laŋ³³ (KN); le¹¹ (KH); la³³ (BW); lo³³ (KW)
 SK: lo³³ (N.SG), lo³³ (S.SG); lē⁵⁵ (N.PW), lō³¹ (S.PW)
83. ‘dig’ **PK: *khu^B *khun² (RB)**
 NK: khu⁵⁵ (N.PO), khu³³ (S.PO)
 CK: - (KN); khi¹¹ (KH); - (BW); khu¹¹ (KW)
 SK: khu³¹ (N.SG), khu⁴⁵ (S.SG); kha³³ (N.PW), khə⁵⁵ (S.PW)
84. ‘dip up’ (water) **PK: *ʔd()N^B *dəm² (RB)**
 NK: - (N.PO), - (S.PO)
 CK: du¹¹ (KN); - (KH); dō⁵⁵ (BW); du¹¹ (KW)
 SK: də³¹ (N.SG), di⁴⁵ (S.SG); dā³³ (N.PW), dā⁵⁵ (S.PW)
85. ‘Dipterocarpus tuberculatus Roxb’ **PK: *thəN^A**
 NK: təŋ³¹ (N.PO), - (S.PO)
 CK: thə⁵³ (KN); tho³³ (KH); - (BW); thə⁵⁵ (KW)
 SK: thə³³ (N.SG), tho⁵⁵ (SSG); thā⁵⁵ (N.PW), - (S.PW)
 Note: In N.Pwo, it is an irregular tone change, i.e. tone 55 (A23) instead of tone 35 (A1) as in Sgaw, NK and CK.
86. ‘disappear, lost’ **PK: *ma^B *ma¹ (RB)**
 NK: ma⁵³ (N.PO), ma⁵⁵ (S.PO)
 CK: ma¹¹ (KN); me¹¹ (KH); he⁵⁵me¹¹ (BW); ma¹¹ (KW)
 SK: ma¹¹ (N.SG), ma³¹ (S.SG); me¹¹ (N.PW), ma³³ (S.PW)
87. ‘dog’ **PK: *thwi^B *thwi² (RB)**
 NK: thwi⁵⁵ (N.PO), thwi³³ (S.PO)
 CK: thwi¹¹ (KN), thwi¹¹ (KH); thwi³³ (BW); thi¹¹ (KW)
 SK: thwi³¹ (N.SG), thwi⁴⁵ (S.SG); thwi³³ (N.PW), thwi⁵⁵ (S.PW)
88. ‘do, make’ **PK: *ma^A *ma³ (RB)**
 NK: ma³³ (N.PO), ma⁵³ (S.PO)
 CK: ma³³ (KN); me¹¹ (KH); mē (BW); ma³³ (KW)
 SK: ma³³ (N.SG), ma³³ (S.SG); mē⁵⁵ (N.PW), ma³¹ (S.PW)
89. ‘dove’ **PK: *(tho^B)lwi^B**
 NK: lwi⁵³ (N.PO), lwi⁵⁵ (S.PO)
 CK: lwi¹¹ (KN); lwi¹¹ (KH); lwi³³ (BW); li¹¹ (KW)
 SK: lwi¹¹ (N.SG), lwi³¹ (S.SG); lei¹¹ (N.PW), lwi³³ (S.PW)
90. ‘dream (v.)’ **PK: *maŋ^B *maŋ¹ (RB)**
 NK: maŋ⁵³ (N.PO), maŋ⁵⁵ (S.PO)
 CK: maŋ¹¹ (KN); me¹¹ (KH); mi⁵⁵ma³³ (BW); mō¹¹ (KW)
 SK: mi³³mo³¹ (N.SG), mō³¹ (S.SG); mē¹¹ (N.PW), mō³³ (S.PW)
91. ‘drink(v.)’ **PK: ʔɔ^A *ʔɔ³ (RB)**
 NK: - (N.PO), - (S.PO)
 CK: ʔau⁵³ (KN); ʔo³³ (KH); ɔ⁵⁵ (BW); ʔo⁵⁵ (KW)
 SK: ʔo³³ (N.SG), ʔo⁵⁵ (S.SG); ʔo⁵⁵ (N.PW), ʔo³¹ (S.PW)

92. ‘dry(v.)’ **PK:** *hlo^A *lo⁴ (RB)
 NK: lo³¹ (N.PO), lo³¹ (S.PO)
 CK: lau⁵³ (KN); - (KH); lo⁵⁵ (BW); lo⁵⁵ (KW)
 SK: lo³³ (N.SG), lo⁵⁵ (S.SG); lu³⁵ (N.PW), lu⁵³ (S.PW)
93. ‘drunk’ **PK:** *mwi^{NA} *mun³ (RB)
 NK: mun³³ (N.PO), mu^əm⁵³ (S.PO)
 CK: mi³³ (KN); mi¹¹ (KH); mu³³ (BW); mu³³ (KW)
 SK: mu³³ (N.SG), mu³³ (S.SG); mǎ⁵⁵ (N.PW), mǎi³¹ (S.PW)
94. ‘dung, excrement’ **PK:** *ʔe^B *ʔe² (RB)
 NK: ʔe⁵⁵ (N.PO), ʔe³³ (S.PO)
 CK: ʔai¹¹ (KN); ʔi¹¹ (KH); i³³ (BW); ʔi¹¹ (KW)
 SK: ʔe³¹ (N.SG), ʔe⁴⁵ (S.SG); ʔi³³ (N.PW), ʔi⁵⁵ (S.PW)
95. ‘ear’ **PK:** *na^B *na¹ (RB)
 NK: na⁵³ (N.PO), na⁵⁵ (S.PO)
 CK: na¹¹ (KN); ne¹¹ (KH); ne³³ (BW), na¹¹ (KW)
 SK: na¹¹ (N.SG), na³¹ (S.SG); ne¹¹ (N.PW), na³³ (S.PW)
96. ‘earthworm’ **PK:** *jɛ^ʔ
 NK: jɛ^{ʔ45} (N.PO), jɛ^{ʔ45} (S.PO)
 CK: jɛ^{ʔ21} (KN); ja³³ (KH); - (BW); je³³ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
97. ‘easy’ **PK:** *hpaw^A *ɲo⁴ (RB)
 NK: - (N.PO), - (S.PO)
 CK: jau⁵³ (KN); ju³³ (KH); jo⁵⁵ (BW); ju⁵⁵ (KW)
 SK: jo³³ (N.SG), jo⁵⁵ (S.SG); jo³⁵ (N.PW), jo⁵³ (S.PW)
98. ‘eat’ **PK:** *ʔam^B *ʔam² (RB)
 NK: ʔam⁵⁵ (N.PO), ʔam³³ (S.PO)
 CK: ʔaŋ¹¹ (KN); ʔe¹¹ (KH); a³³ (BW); ʔo¹¹ (KW)
 SK: ʔo³¹ (N.SG), ʔo⁴⁵ (S.SG); ʔɛ³³ (N.PW), ʔɔ⁵⁵ (S.PW)
99. ‘egg’ **PK:** *ʔdej^B *di² (RB)
 NK: di⁵⁵ (N.PO), di³³ (S.PO)
 CK: ti¹¹ (KN); dɔ¹¹ (KH); - di³³ (BW); di¹¹ (KW)
 SK: di³¹ (N.SG), di⁴⁵ (S.SG); dei³³ (N.PW), dei⁵⁵ (S.PW)
 Note: Kayan has an irregular onset, i.e. /t-/ instead of /d-/.
100. ‘eggplant’ **PK:** *s-ga^{NA}
 NK: - (N.PO), - (S.PO)
 CK: kaŋ³³ (KN); ke¹¹ (KH); - (BW); -ko³³ (KW)
 SK: sɔ¹¹ko³³ (N.SG), ko³³ (S.SG); - (N.PW), - (S.PW)
101. ‘eight’ **PK:** *khrɔt^D/*grɔt^D *xo^{ʔ1} (RB)
 NK: sɔt²¹ (N.PO), sɔt²¹ (S.PO)
 CK: chau^{ʔ45} (KN); - (KH); - (BW); -xo¹¹ (KW)
 SK: xo^{ʔ45} (N.SG), xo^{ʔ21} (S.SG); xo^{ʔ21} (N.PW), xu^{ʔ45} (S.PW)
 Note: The D3 tone in NK and Pwo suggests *gr- while the D12 tone in Kayan and Sgaw indicates *khr-.
102. ‘elephant’ **PK:** *k-chaŋ^A *chaŋ⁴ (RB)
 NK: chaŋ³¹ (N.PO), chaŋ³¹ (S.PO)
 CK: chaŋ⁵³ (KN); che³³ (KH); (gə) ʃa⁵⁵ (BW); rɔ¹¹cho⁵⁵ (KW)
 SK: kə¹¹cho³³ (N.SG), kə¹¹cho⁵⁵ (S.SG); ka¹¹chɛ³⁵ (N.PW), kə¹¹chɔ⁵³ (S.PW)
103. ‘embrace, hug’ **PK:** *pho^ʔ *pho^{ʔ2} (RB)
 NK: pho^{ʔ21} (N.PO), - (S.PO)
 CK: - (KN); phe⁵⁵ (KH); pho³³ (BW); pho³³ (KW)
 SK: pho^{ʔ45} (N.SG), pho^{ʔ21} (S.SG); pho^{ʔ45} (N.PW), phu^{ʔ21} (S.PW)

104. ‘enter’ **PK: *n()ʔ^D *nyʔ¹** (RB)
 NK: - (N.PO), nəʔ⁴⁵ (S.PO)
 CK: - (KN); no³³ (KH); nu¹¹ (BW); nu³³ (KW)
 SK: niʔ²¹ (N.SG), nəu¹¹ (S.SG); naəʔ²¹ (N.PW), - (S.PW)
105. ‘exert forcing to expel’ **PK: *chuN^A**
 NK: chən³¹ (N.PO), chuəm³¹ (S.PO)
 CK: chwəŋ⁵³ (KN); chi³³ (KH); - (BW); chu⁵⁵ (KW)
 SK: chu³³ (N.SG), - (S.SG); - (N.PW), - (S.PW)
106. ‘extinguish (t.v.)’ **PK: *p/biʔ^D *phiʔ¹** (RB)
 NK: peʔ²¹ (N.PO), piʔ²¹ (S.PO)
 CK: piʔ²¹ (KN); pi³³ (KH); bi¹¹ (BW); pi³³ (KW)
 SK: phiʔ⁴⁵ (N.SG), pai¹¹ (S.SG); phaiʔ²¹ (N.PW), phaiʔ⁴⁵ (S.PW)
 Note: Pa-O and N.Sgaw have tone D12 which suggests *p- in PK.
107. ‘eye, face’ **PK: *mɛʔ^D *mɛʔ¹** (RB)
 NK: mɛʔ⁴⁵ (N.PO), mɛʔ⁴⁵ (S.PO)
 CK: - (KN); - (KH); - (BW); - (KW)
 SK: mɛʔ²¹ (N.SG), mɛ¹¹ (S.SG); mɛʔ²¹ (N.PW), mɛʔ⁴⁵ (S.PW)
108. ‘fall down’ **PK: *dɛʔ^D**
 NK: tɛʔ⁴⁵ (N.PO), tɛʔ⁴⁵ (S.PO)
 CK: tɛʔ²¹ (KN); ta³³ (KH); de¹¹ (BW); te³³ (KW)
 SK: tɛʔ²¹ (N.SG), tɛ¹¹ (S.SG); theʔ²¹ (N.PW), theʔ⁴⁵ (S.PW)
109. ‘fat (adj)’ **PK: *ʔbluŋ^B**
 NK: pləŋ⁵⁵ (N.PO), pwəŋ³³ (S.PO)
 CK: bwəŋ¹¹ (KN); bi¹¹ (KH); ʃo³³ (BW); bu¹¹ (KW)
 SK: bə³¹ (N.SG), bə⁴⁵ (S.SG); bə³³ (N.PW), bə⁵⁵ (S.PW)
110. ‘feather, fur, body hair’ **PK: *chuN^B *chən²** (RB)
 NK: chən⁵⁵ (N.PO), chuəm³³ (S.PO)
 CK: chwəŋ¹¹ (KN); ɛi¹¹ (KH); ʃu³³ (BW); ɛu¹¹ (KW)
 SK: chu³¹ (N.SG), chu⁴⁵ (S.SG); chə³³ (N.PW), chə⁵⁵ (S.PW)
111. ‘feel full (after eating)’ **PK: *kəʔ^D *kaʔ²** (RB)
 NK: kəʔ²¹ (N.PO); kəʔ²¹ (S.PO)
 CK: kəʔ⁴⁵ (KN); kə⁵⁵ (KH); - (BW); kə³³ (KW)
 SK: - (N.SG), - (S.SG); kaəʔ⁴⁵ (N.PW), - (S.PW)
112. ‘female, woman’ **PK: *hmi^B *my²** (RB)
 NK: mi⁵³ (N.PO), mi³³ (S.PO)
 CK: mi¹¹ (KN); mə¹¹ (KH); mo³³ (BW); mi¹¹ (KW)
 SK: mi³¹ (N.SG), mi⁴⁵ (S.SG); məi³³ (N.PW), mi⁵⁵ (S.PW)
113. ‘female (humans), mother’ **PK: *mu^B *mo¹** (RB)
 NK: mu⁵³ (N.PO), mu⁵⁵ (S.PO)
 CK: mu¹¹ (KN); mu¹¹ (KH); bo¹¹ mu⁵⁵ (BW); mu¹¹ (KW)
 SK: mo¹¹ (N.SG), mu³¹ (S.SG); mu¹¹ (N.PW), mu³³ (S.PW)
114. ‘fire’ **PK: *hme^B *me²** (RB)
 NK: me⁵⁵ (N.PO), me³³ (S.PO)
 CK: mai¹¹ (KN); mi¹¹ (KH); mi³³ (BW); mi (KW)
 SK: me³¹ (N.SG), me⁴⁵ (S.SG); mi³³ (N.PW), mi⁵⁵ (S.PW)
115. ‘fish’ **PK: *daʔ^D**
 NK: thaʔ⁴⁵ (N.PO), thaʔ⁴⁵ (S.PO)
 CK: taʔ²¹ (KN); te³³ (KH); da¹¹-pho³³ (BW); tə³³ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
116. ‘five’ **PK: *ŋjat^D *ŋɛ¹** (RB)
 NK: ŋat⁴⁵ (N.PO), ŋap⁴⁵~ŋat⁴⁵ (S.PO)
 CK: ŋɛʔ²¹ (KN); ŋɛ³³ (KH); jɛ¹¹ (BW); jɛ³³ (KW)
 SK: jɛ¹¹ (N.SG), jɛ³¹ (S.SG); jɛ¹¹ (N.PW), jɛ³³ (S.PW)
 Note: It is noticeable that Sgaw and Pwo (SK) have tone B3.

117. ‘flank, rib’ **PK: *rəʔ^D *ɣyʔ¹** (RB)
 NK: rəʔ⁴⁵ (N.PO), rəʔ⁴⁵ (S.PO)
 CK: rəʔ²¹ (KN); rəʔ³³ (KH); - (BW); rəʔ³³ (KW)
 SK: ɣuʔ²¹ (N.SG), ɣəi¹¹ (S.SG); ɣaəʔ²¹ (N.PW), ɣaəʔ⁴⁵ (S.PW)
118. ‘flat’ **PK: *pja^B**
 NK: pja⁵⁵ (N.PO), pja³³ (S.PO)
 CK: bja¹¹ (KN); - (KH); ɬe³³ ɬa³³ (BW); - (KW)
 SK: bi³¹ (N.SG), - (S.SG); pa³³ (N.PW), bai⁵⁵ (S.PW)
119. ‘flea’ **PK: *kli^A/*kliʔ^D**
 NK: khli³¹ (N.PO), - (S.PO)
 CK: khliʔ⁴⁵ (KN); kla⁵⁵ (KH); kle³³ (BW); kle³³ (KW)
 SK: kli⁵⁵, kliʔ⁴⁵ (N.SG), kli⁵⁵ (S.SG); khlei³⁵ (N.PW), khlei⁵³ (S.PW)
 Note: S.Pa-O, Pwo and some varieties of Sgaw have tone A, while CK has tone D.
120. ‘flesh, meat’ **PK: *hpa^B *ŋa²** (RB)
 NK: ja⁵⁵ (N.PO), ja³³ (S.PO)
 CK: ja¹¹ (KN); ja¹¹ (KH); - (BW); ja¹¹ (KW)
 SK: ja³¹ (N.SG), ja⁴⁵ (S.SG); ja³³ (N.PW), ja⁵⁵ (S.PW)
121. ‘flower’ **PK: *phə^A *phə⁴** (RB)
 NK: - (N.PO), - (S.PO)
 CK: phau⁵³ (KN); phə³³ (KH); phə⁵⁵ (BW); phə⁵⁵ (KW)
 SK: phə³³ (N.SG), phə⁵⁵ (S.SG); phə³⁵ (N.PW), phə⁵³ (S.PW)
122. ‘forget’ **PK: *s-beŋ^A**
 NK: phen³³ (N.PO), peŋ⁵³ (S.PO)
 CK: pe³³ (KN); pa¹¹ (KH); - (BW); pe³³ (KW)
 SK: - (N.SG), pi³³ (S.SG); - (N.PW), - (S.PW)
123. ‘forest, jungle’ **PK: *kla^A**
 NK: khla³¹ (N.PO), kla³¹ (S.PO)
 CK: - (KN); kle³³ (KH); - (BW), ka⁵⁵ (KW)
 SK: pya¹¹ laʔ⁴⁵ klaʔ⁴⁵ (N.SG), kla⁵⁵ (S.SG); kla⁵⁵ (N.PW), kla³¹ (S.PW)
124. ‘four’ **PK: - (?) PNK: *lit^D; PCK: *hlwi^A; PSK: *lwi^B *lwi¹** (RB)
 NK: lip⁴⁵~lit⁴⁵ (N.PO), lip⁴⁵~lit⁴⁵ (S.PO)
 CK: lwi⁵³ (KN); lwi³³ (KH); lu⁵⁵ (BW); li⁵⁵ (KW)
 SK: lwi¹¹ (N.SG), lwi³¹ (S.SG); lwi¹¹ (N.PW), lei³³ (S.PW)
 Note: The PK form cannot be reconstructed since PNK, PCK and PSK have different onsets and tones.
125. ‘fox, wolf’ **PK: *thwi^Bmi^A**
 NK: thwi⁵⁵mi³³ (N.PO), thwi³³mi⁵³ (S.PO)
 CK: thwi¹¹mi³³ (KN); thwi¹¹mi¹¹ (KH); - (BW); thi¹¹mi³³ (KW)
 SK: thwi¹¹mi³³ (N.SG), thwi⁴⁵mi³³ (S.SG); - (N.PW), thwi⁵⁵mei³¹ (S.PW)
126. ‘frog’ **PK: *ʔde^B *de²** (RB)
 NK: de⁵⁵ (N.PO), de³³ (S.PO)
 CK: dai¹¹ (KN); di¹¹ (KH); di³³ (BW); di¹¹ (KW)
 SK: de³¹ (N.SG), de⁴⁵ (S.SG); di³³ (N.PW), di⁵⁵ (S.PW)
127. ‘front’ **PK: *hpa^A**
 NK: ɲa³¹ (N.PO), ɲa³¹ (S.PO)
 CK: ɲa⁵³ (KN); ɲe³³ (KH); - (BW); - (KW)
 SK: ɲa³³ (N.SG), ɲa⁵⁵ (S.SG); - (N.PW); - (S.PW)
128. ‘fruit’ **PK: *sa^B *sa²** (RB)
 NK: - (N.PO), - (S.PO)
 CK: θa¹¹ (KN); se¹¹ (KH); θe³³ (BW); sa¹¹ (KW)
 SK: sa³¹ (N.SG), sa⁴⁵ (S.SG); sa³³ (N.PW), θa⁵⁵ (S.PW)
129. ‘full’ **PK: *pwe^A**
 NK: bwe³¹ (N.PO), bwe³¹ (S.PO)
 CK: bwe⁵³ (KN); ba³³ (KH); pwe⁵⁵ (BW); be⁵⁵ (KW)
 SK: pye³³ (N.SG), - (S.SG); - (N.PW), - (S.PW)

130. ‘ginger’ **PK: *ʔeŋ^A *ʔeŋ³** (RB)
 NK: ʔeŋ^{31~} (N.PO), ʔeŋ^{31~} (S.PO)
 CK: ʔe⁵³ (KN); ʔa³³ (KH); ʈə⁵⁵ ɛ⁵⁵ (BW); ʔe⁵⁵ (KW)
 SK: sə¹¹ ʔe³³ (N.SG), ʔi⁵⁵ (S.SG); ʔäi⁵⁵ (N.PW), ʔëi^{31~} (S.PW)
131. ‘go’ **PK: *lwɛ^A**
 NK: lwɛ³³ (N.PO), lwɛ⁵³ (S.PO)
 CK: lɛ³³ (KN); - (KH); lɛ³³ (BW); lɛ³³ (KW)
 SK: lɛ³³ (N.SG), lɛ³³ (S.SG); lɛ⁵⁵ (N.PW), lɛ^{31~} (S.PW)
132. ‘grasshopper’ **PK: *ʔdwe^B**
 NK: dwe⁵⁵ (N.PO), dwe³³ (S.PO)
 CK: dwe¹¹ (KN); - (KH); dɛ³³ (BW); dɛ¹¹ (KW)
 SK: dwe^{31~} (N.SG), dwe⁴⁵ (S.SG); thwɛ¹¹ (N.PW), thwe³³ (S.PW)
 Note: The initial th- and tone B3 in Pwo suggest a plain voiced *d- in PK. Probably, *d- in PK became *d- in Pwo and then *d- became /th-/.
133. ‘grandchild’ **PK: *lej^A *li³** (RB)
 NK: li³³ (N.PO), li⁵³ (S.PO)
 CK: - (KN); lə¹¹ (KH); li¹¹ (BW); li³³ (KW)
 SK: li³³ (N.SG), li³³ (S.SG); lei⁵⁵ (N.PW), lei^{31~} (S.PW)
 Note: There is an irregular tone change in Bwe. The A3 tone in Bwe should be 33, not 11.
134. ‘great-grandchild’ **PK: *lo^A *lo³** (RB)
 NK: - (N.PO), lo⁵³ (S.PO)
 CK: lau³³ (KN); lu¹¹ (KH); - (BW); lu³³ (KW)
 SK: lo³³ (N.SG), lu³³ (S.SG); lu⁵⁵ (N.PW), lu^{31~} (S.PW)
135. ‘great-great-gandchild’ **PK: *la^A *la³** (RB)
 NK: la³³ (N.PO), la⁵³ (S.PO)
 CK: la³³ (KN); la¹¹ (KH); - (BW); la³³ (KW)
 SK: la³³ (N.SG), la³³ (S.SG); la⁵⁵ (N.PW), la^{31~} (S.PW)
136. ‘hair (head~)’ **PK: *khu^Bslu^A**
 NK: kaʔ⁴⁵lu³³ (N.PO), ka³³lu⁵³ (S.PO)
 CK: kaʔ²¹lu³³ (KN); kho⁵⁵lo¹¹ (KH); khə⁵⁵lu⁵⁵ (BW); khu¹¹lu³³ (KW)
 SK: kho^{31~}su³³ (N.SG), khu⁴⁵su⁵⁵ (S.SG); khu³³su⁵⁵ (N.PW), - (S.PW)
137. ‘handle’ **PK: *do^B**
 NK: tho⁵³ (N.PO), to⁵⁵ (S.PO)
 CK: - (KN); tu¹¹ (KH); -do³³ (BW); tu¹¹ (KW)
 SK: to^{11~} (N.SG), tu³¹ (S.SG); thu^{11~} (N.PW), thu³³ (S.PW)
138. ‘hat’ **PK: *~kl()ŋ^B**
 NK: koŋ⁵⁵ (N.PO), koŋ³³ (S.PO)
 CK: klə¹¹ (KN); ko¹¹ (KH); k³³phla³³ (BW); klə¹¹ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
139. ‘hawk, eagle’ **PK: *lek^D**
 NK: leʔ⁴⁵ (N.PO), lek^{45~}lik⁴⁵ (S.PO)
 CK: liʔ²¹ (KN); la³³ (KH); le¹¹ (BW); le³³ (KW)
 SK: liʔ²¹ (N.SG), lai^{11~} (S.SG); laiʔ²¹ (N.PW), laiʔ⁴⁵ (S.PW)
140. ‘have, be, exist, stay, there is’ **PK: *ʔə^B**
 NK: ʔau⁵⁵ (N.PO), ʔau³³ (S.PO)
 CK: ʔau¹¹ (KN); ʔo¹¹ (KH); ɔ³³ (BW); ʔo¹¹ (KW)
 SK: ʔo^{31~} (N.SG), ʔu⁴⁵ (S.SG); ʔə³³ (N.PW), ʔo⁵⁵ (S.PW)
141. ‘head’ **PK: *kləʔ^D**
 NK: kəʔ²¹tu⁵⁵ (N.PO), kəʔ²¹tu³³ (S.PO)
 CK: kləʔ⁴⁵ (KN); klə⁵⁵ (KH); ku³³kə³³ (BW); ki^{33~}kə³³ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW); - (S.PW)

142. ‘heart’ **PK: *sa^{2D}** *sa²² (RB)
 NK: sa²²¹ (N.PO), sa²²¹ (S.PO)
 CK: θa²⁴⁵ (KN); se⁵⁵ (KH); θa³³ (BW); sɔ³³ (KW)
 SK: sa²⁴⁵ (N.SG), sa²²¹ (S.SG); sa²⁴⁵ (N.PW); θa²²¹ (S.PW)
143. ‘heavy’ **PK: *thə^B**
 NK: thi⁵⁵ (N.PO), thi³³ (S.PO)
 CK: thəi¹¹ (KN); tho¹¹ (KH); tho³³ (BW); thə¹¹ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
144. ‘hemp’ **PK: *srə^B**
 NK: sau⁵⁵ (N.PO), ɛau³³ (S.PO)
 CK: θau¹¹ (KN); so¹¹ (KH); θrɔ³³ (BW); so¹¹ (KW)
 SK: ɛyɔ^{31~} (N.SG), ɛyɔ^{45~} (S.SG); ɛjɔ³³ (N.PW), θo⁵⁵ (S.PW)
145. ‘hip’ **PK: *glam^B**
 NK: - (N.PO), kwam⁵⁵ (S.PO)
 CK: ka¹¹ki¹¹ (KN); kla¹¹ (KH); - (BW); ka¹¹ (KW)
 SK: khi³³ko^{11~} (N.SG), kɔ³¹ (S.SG); kwā^{11~} (N.PW), khwɔ̃³³ (S.PW)
146. ‘hit hard (with a fist)’ **PK: *doŋ^B**
 NK: doŋ³³ (N.PO), toŋ⁵³ (S.PO)
 CK: dəu¹¹ (KN); tho¹¹ (KH); to³³ (BW); thə¹¹ (KW)
 SK: tɔ^{11~} (N.SG), - (S.SG); thə^{11~} (N.PW), - (S.PW)
 Note: NK has the A tone instead of the B tone as in CK and SK.
147. ‘horn’ **PK: *noŋ^A** *noŋ³ (RB)
 NK: noŋ³³ (N.PO), noŋ⁵³ (S.PO)
 CK: no³³ (KN); nɔ¹¹ (KH); -no¹¹ (BW); nə (KW)
 SK: nə³³ (N.SG), nə³³ (S.SG); nāu⁵⁵ (N.PW), nōu^{31~} (S.PW)
 Note: Bwe has an irregular tone. Modern Bwe should have tone 33(A3) instead of Tone 11 (D3).
148. ‘hornet’ **PK: *phriN^A**
 NK: phrim^{31~} (N.PO), phrin^{31~} (S.PO)
 CK: phri⁵³ (KN); phli³³ (KH); phlu⁵⁵ (BW); phri⁵⁵ (KW)
 SK: phlɔ³³ (N.SG), phli⁵⁵ (S.SG); phlɔ̃³⁵ (N.PW), phlɔ̃i⁵³ (S.PW)
 Note: In SK *phr- has become phl-.
149. ‘horse’ **PK: *k-sre^T** *se² (RB)
 NK: se^{31~} (N.PO), se^{31~} (S.PO)
 CK: θi²⁴⁵ (KN), si⁵⁵ (KH); θrr³³ (BW); si³³ri³³ (KW)
 SK: kə³³se^{11~} (N.SG), kə¹¹se^{45~} (S.SG); ka²²¹si³³ (N.PW), kə¹¹θi⁵⁵ (S.PW)
 Note: The PK tone cannot be reconstructed due to the fact that NK, CK and SK have tones A, D and B, respectively. This etymon is an Austroasiatic loanword. The reconstructed form for ‘horse’ in Proto-Monic is *kseh (Diffloth 1984).
150. ‘hundred’ **PK: *g-rja^A** *ŋa³ (RB)
 NK: rja³³ (N.PO), rja⁵³ (S.PO)
 CK: ja³³ (KN); je¹¹ (KH); gə³³je³³ (BW); ja³³ (KW)
 SK: kə¹¹ja³³ (N.SG), kə¹¹ja³³ (S.SG); ja⁵⁵ (N.PW), ja^{31~} (S.PW)
151. ‘husband’ **PK: *gwa^A**
 NK: wa³³ (N.PO), wa⁵³ (S.PO)
 CK: gwa³³ (KN); we¹¹ (KH); wa³³ (BW); wu³³ (KW)
 SK: wa³³ (N.SG), wa³³ (S.SG); wa⁵⁵ (N.PW), wa^{31~} (S.PW)
152. ‘ill, painful, sick’ **PK: *cha^A** *cha⁴ (RB)
 NK: cha^{31~} (N.PO), cha^{31~} (S.PO)
 CK: cha⁵³ (KN); che³³ (KH); je⁵⁵ (BW); cha⁵⁵ (KW)
 SK: cha³³ (N.SG), cha⁵⁵ (S.SG); cha³⁵ (N.PW), cha⁵³ (S.PW)
153. ‘insect’ **PK: *gra^B** *xa¹ (RB)
 NK: sa⁵³ (N.PO), ɛa⁵⁵ (S.PO)
 CK: ca¹¹ (KN); khre¹¹ (KH); - (BW); ca¹¹ (KW)
 SK: xa^{11~} (N.SG), xa³¹ (S.SG); xa^{11~} (N.PW), xa³³ (S.PW)

154. ‘intestines’ **PK: *breʔ^D *phyiʔ¹** (RB)
 NK: phreʔ⁴⁵ (N.PO), phriʔ⁴⁵ (S.PO)
 CK: priʔ²¹ (KN); phra³³ (KH); - bwi¹¹ (BW); pre³³ (KW)
 SK: phyiʔ²¹ (N.SG), pyai¹¹ (S.SG); xwaiʔ²¹ (N.PW), xwaiʔ⁴⁵ (S.PW)
 Note: Pwo has an unusual onset, xw- .
155. ‘iron’ **PK: *thaʔ^D *thaʔ²** (RB)
 NK: thaʔ²¹ (N.PO), thaʔ²¹ (S.PO)
 CK: thaʔ⁴⁵ (KN); the⁵⁵ (KH); tha³³ (BW); tho³³ (KW)
 SK: thaʔ⁴⁵ (N.SG); thaʔ²¹ (S.SG); thaʔ⁴⁵ (N.PW), thaʔ²¹ (S.PW)
156. ‘itchy’ **PK: *saʔ^D**
 NK: saʔ²¹ (N.PO), saʔ²¹ (S.PO)
 CK: θaʔ⁴⁵ (KN); se⁵⁵ (KH); θa³³ (BW); so³³ (KW)
 SK: saʔ⁴⁵ (N.SG), saʔ²¹ (S.SG); saʔ⁴⁵ (N.PW), θaʔ²¹ (S.PW)
157. ‘kidney’ **PK: *k-le^B *le¹** (RB)
 NK: le⁵³ (N.PO), - (S.PO)
 CK: lai¹¹ (KN); li¹¹ (KH); -li¹¹θe³³ (BW); li¹¹ (KW)
 SK: kə³³le¹¹ (N.SG), kə¹¹le³¹ (S.SG); li¹¹ (N.PW), li³³ (S.PW)
158. ‘leaf’ **PK: *hla^B *la²** (RB)
 NK: la⁵⁵ (N.PO), la³³ (S.PO)
 CK: la¹¹ (KN); le¹¹ (KH); le³³ (BW); la¹¹ (KW)
 SK: la³¹ (N.SG), la⁴⁵ (S.SG); la³³ (N.PW), la⁵⁵ (S.PW)
159. ‘leech (land~)’ **PK: *s-waʔ^D *waʔ¹** (RB)
 NK: waʔ²¹ (N.PO), waʔ²¹ (S.PO)
 CK: θuʔ⁴⁵ (KN); swa⁵⁵ (KH); - (BW); su³³ (KW)
 SK: suʔ⁴⁵ (N.SG), souʔ²¹ (S.SG); waʔ²¹ (N.PW), waʔ⁴⁵ (S.PW)
 Note: NK, CK and Sgaw (SK) have tone D12; however, it is D3 in both N.Pwo and S.Pwo.
160. ‘leech (water~)’ **PK: *k/s-lej^A *li³** (RB)
 NK: - (N.PO), - (S.PO)
 CK: - (KN); - (KH); gə³³li³³ (BW); su¹¹li³³ (KW)
 SK: sə¹¹li³³ (N.SG), tə¹¹li³³ (S.SG); lei⁵⁵ (N.PW), lei³¹ (S.PW)
161. ‘left (side)’ **PK: *ce^B *ce²** (RB)
 NK: ce⁵⁵ (N.PO), ce³³ (S.PO)
 CK: cai¹¹ (KN); ci¹¹ (KH); ci³³ (BW); ci¹¹ (KW)
 SK: ce³¹ (N.SG), ce⁴⁵ (S.SG); ci³³ (N.PW), ci⁵⁵ (S.PW)
162. ‘leg’ **PK: *khaŋ^B**
 NK: khaŋ⁵⁵ (N.PO); khaŋ³³ (S.PO)
 CK: haŋ¹¹ (KN); khe¹¹ (KH); kha³³ (BW); kho¹¹ (KW)
 SK: kho³¹ (N.SG), kho⁴⁵ (S.SG); khə³³ (N.PW), khə⁵⁵ (S.PW)
163. ‘lemur (flying~), flying squirrel’ **PK: *pleʔ^D/bleʔ^D *phliʔ¹** (RB)
 NK: phliʔ²¹ (N.PO), - (S.PO)
 CK: - (KN); pla³³ (KH); bli³³ (BW); ple³³ (KW)
 SK: phliʔ⁴⁵ (N.SG), plai¹¹ (S.SG); phlaiʔ²¹ (N.PW), phlaiʔ⁴⁵ (S.PW)
 Note: Some Karenic languages have tone D12 which suggests *pl-, e.g. N.Pa-O, Bwe and some varieties of Sgaw. However, both N.Pwo and S.Pwo have the D3 tone which indicates a plain voiced *bl-.
164. ‘lick (v.)’ **PK: *hlaj^B *leŋ²** (RB)
 NK: - (N.PO), lai³³ (S.PO)
 CK: lai¹¹ (KN); - (KH); li³³ (BW); li¹¹ (KW)
 SK: le³¹ (N.SG), li⁴⁵ (S.SG); - (N.PW), lai⁵⁵ (S.PW)
165. ‘lie down, sleep’ **PK: *hmej^A *mi⁴** (RB)
 NK: - (N.PO), - (S.PO)
 CK: mai⁵³ (KN); mə³³ (KH); ʃə⁵⁵mi⁵⁵ (BW); mi⁵⁵ (KW)
 SK: mi³³ (N.SG), mi⁵⁵ (S.SG); mei³⁵ (N.PW), mei⁵³ (S.PW)
 Note: Kayan has an irregular vowel, ai; the regular one should be i.

166. 'light (~weight)' **PK: *phwi^A**
 NK: phwi³¹ (N.PO), phwi³¹ (S.PO)
 CK: phwi⁵³ (KN); phwi³³ (KH); phwi⁵⁵~phi⁵⁵ (BW); phi⁵⁵ (KW)
 SK: phi³³ (N.SG), phi⁵⁵ (S.SG); khwi³⁵ (N.PW), khwi⁵³ (S.PW)
 Note: The initial khw- in Pwo is irregular.
167. 'linear measure of about 8-9 inches (a span)' **PK: *tha^A *tha⁴ (RB)**
 NK: tha³¹ (N.PO), tha³¹ (S.PO)
 CK: tha⁵³ (KN); the³³ (KH); - (BW); - (KW)
 SK: tha³³ (N.SG), tha⁵⁵ (S.SG); tha³⁵ (N.PW), tha⁵³ (S.PW)
168. 'linear measure of about half a yard (closed-hand)' **PK: *bla^B**
 NK: - (N.PO), - (S.PO)
 CK: pla¹¹ (KN); ple¹¹ (KH); - (BW); pla¹¹ (KW)
 SK: pla¹¹ (N.SG), pla³¹ (S.SG); phla¹¹ (N.PW), phla³³ (S.PW)
169. 'linear measure of about half a yard (open-hand)' **PK: *dim^A**
 NK: thom³³ (N.PO), təm⁵³ (S.PO)
 CK: ti³³ (KN); ti¹¹ (KH); - (BW); ti³³ (KW)
 SK: tə³³ (N.SG), ti³³ (S.SG); thā⁵⁵ (N.PW); thāi³¹ (S.PW)
170. 'linear measure of about two yards' **PK: *khləN^A**
 NK: khləm³¹ (N.PO), khləŋ³¹ (S.PO)
 CK: khlaŋ⁵³ (KN); khli³³ (KH); - (BW), - (KW)
 SK: khli³³ (N.SG), khli⁵⁵ (S.SG); khlāi³⁵ (N.PW), khlāi⁵³ (S.PW)
171. 'listen to' **PK: *-hna^B**
 NK: na⁵⁵ (N.PO), na³³ (S.PO)
 CK: na¹¹ (KN); - (KH); ŋə⁵⁵ne³³ (BW), na¹¹ (KW)
 SK: kə³³na³¹ (N.SG), na⁴⁵ (S.SG); na³³ (N.PW), na⁵⁵ (S.PW)
172. 'live, stay' **PK: *ʔəN^B *ʔə² (RB)**
 NK: ʔəŋ³¹ (N.PO), ʔəŋ³¹ (S.PO)
 CK: ʔau¹¹ (KN); ʔə¹¹ (KH); ə³³- (BW); ʔə¹¹ (KW)
 SK: ʔə³¹ (N.SG), ʔu⁴⁵ (S.SG); ʔə³³ (N.PW), ʔə⁵⁵ (S.PW)
173. 'liver' **PK: *swin^B *sun² (RB)**
 NK: sin⁵⁵ (N.PO), suən³³ (S.PO)
 CK: θi¹¹ (KN); so¹¹ (KH); θu⁵⁵əa³³ (BW), ~βu¹¹ (KW)
 SK: su³¹ (N.SG), su⁴⁵ (S.SG); sã³³ (N.PW), θãi⁵⁵ (S.PW)
174. 'long (of time)' **PK: *ŋjaʔ^D *ŋiʔ¹ (RB)**
 NK: ŋjaʔ⁴⁵ (N.PO), ŋjaʔ⁴⁵ (S.PO)
 CK: ŋi³³ (KN); ŋja³³ (KH); jɪ¹¹ (BW), ji³³ (KW)
 SK: jiʔ²¹ (N.SG); ji¹¹ (S.SG); jaiʔ²¹ (N.PW), jaiʔ⁴⁵ (S.PW)
175. 'long (of length), tall, high' **PK: *thaw^A**
 NK: tho³¹ (N.PO), tho³¹ (S.PO)
 CK: thau⁵³ (KN); thu³³ (KH); tho⁵⁵ (BW); thu⁵⁵ (KW)
 SK: tho³³ (N.SG), tho⁵⁵ (S.SG); tho³⁵ (N.PW), tho⁵³ (S.PW)
176. 'look after (things)' **PK: *pə^B**
 NK: pə⁵⁵ (N.PO), pə³³ (S.PO)
 CK: pəi¹¹ (KN); po¹¹ (KH); bə³³i⁵⁵ (BW); pə¹¹ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW); - (S.PW)
177. 'loris' **PK: *k-čh()N^A**
 NK: - (N.PO), - (S.PO)
 CK: chəŋ⁵³ (KN); chə³³ (KH); - (BW); chə⁵⁵ (KW)
 SK: kə¹¹che³³ (N.SG), ta¹¹chi⁵⁵ (S.SG); chāi³⁵ (N.PW), kə¹¹chēi⁵³ (S.PW)
178. 'louse (chicken~), insect' **PK: *(chjaN^A)gra^B**
 NK: ɕja³¹sa⁵³ (N.PO), ɕja³¹ca⁵⁵ (S.PO)
 CK: ɕi⁵³ca¹¹ (KN); cha³³khre¹¹ (KH); - (BW); ɕi⁵⁵ca¹¹ (KW)
 SK: chə³³xa¹¹ (N.SG), chə⁵⁵xa³¹ (S.SG); chē³⁵xa¹¹ (N.PW), chē⁵³xa³³ (S.PW)

179. ‘louse (head~)’ **PK: *swi^{NB} *sun²** (RB)
 NK: si⁵⁵ (N.PO), si³³ (S.PO)
 CK: θi¹¹ (KN); so¹¹ (KH); θo¹¹ (BW); si¹¹ (KW)
 SK: su^{31~} (N.SG), su^{45~} (S.SG); sã³³ (N.PW), θã⁵⁵ (S.PW)
180. ‘lung’ **PK: *p-so^B**
 NK: - (N.PO), - (S.PO)
 CK: θau¹¹ (KN); su¹¹ (KH); θã^{55~}o⁵⁵ (BW); su¹¹ (KW)
 SK: pã³³so^{31~} (N.SG), su^{45~} (S.SG); so²⁴⁵ (N.PW), bu³³θu²²¹ (S.PW)
 Note: Pwo has tone D while CK and Sgaw have tone B.
181. ‘maggot’ **PK: *hloŋ^B *loŋ²** (RB)
 NK: loŋ⁵⁵ (N.PO), loŋ³³ (S.PO)
 CK: lo¹¹ (KN); lo¹¹ (KH); lo³³ (BW); lo¹¹ (KW)
 SK: lo^{31~} (N.SG), lo^{45~} (S.SG); lãu³³ (N.PW), lõu⁵⁵ (S.PW)
182. ‘male (of animals), father’ **PK: *pha^A *pha⁴** (RB)
 NK: pha^{31~} (N.PO), pha^{31~} (S.PO)
 CK: pha⁵³ (KN); phe³³ (KH); - (BW); pha⁵⁵ (KW)
 SK: pha³³ (N.SG), pha⁵⁵ (S.SG); pha³⁵ (N.PW), pha⁵³ (S.PW)
183. ‘man, male’ **PK: *khwa^A *khwa⁴** (RB)
 NK: kho^{31~} (N.PO), kho^{31~} (S.PO)
 CK: khau⁵³ (KN); khu³³ (KH); - bo¹¹khõ⁵⁵ (BW); khu⁵⁵ (KW)
 SK: khwa³³ (N.SG), khwa⁵⁵ (S.SG); khwa³⁵ (N.PW), khwa⁵³ (S.PW)
184. ‘mango’ **PK: *kħɔ^{2D}**
 NK: kħɔ²²¹ (N.PO), kħɔ²²¹ (S.PO)
 CK: khau²⁴⁵ (KN); khɛ⁵⁵ (KH); - (BW); kho³³ (KW)
 SK: kħɔ²⁴⁵ (N.SG), kho²²¹ (S.SG); kho²⁴⁵ (N.PW), khu²²¹ (S.PW)
185. ‘many, much’ **PK: *ʔa^A *ʔa⁴** (RB)
 NK: ʔa^{31~} (N.PO), ʔa^{31~} (S.PO)
 CK: ʔa⁵³ (KN); ʔa³³ (KH); ɔ³³ɛ³³ (BW); - (KW)
 SK: ʔa³³ (N.SG), ʔa⁵⁵ (S.SG); ʔa³³ (N.PW), ʔa⁵⁵ (S.PW)
 Note: Kayah has an irregular vowel, /a/ instead of /e/. Bwe and Pwo have tone B while the rest have tone A.
186. ‘mat’ **PK: *khlɔ^B *khlɔ²** (RB)
 NK: khlau⁵⁵ (N.PO), khlau³³ (S.PO)
 CK: - (KN); - (KH); khlo³³ (BW); - (KW)
 SK: khlɔ^{31~} (N.SG), khlɔ^{45~} (S.SG); khlɔ³³ (N.PW), khlɔ⁵⁵ (S.PW)
187. ‘milipede’ **PK: *k/s-wɛj^{A/B}**
 NK: cɔ⁵⁵wɛ³³ (N.PO), cɔ¹¹wɛ⁵³ (S.PO)
 CK: θa²²¹kə¹¹wi³³ (KN); si⁵⁵kə⁵⁵wi¹¹ (KH); - (BW); te¹¹wɛ³³ (KW)
 SK: si²⁴⁵wɔ^{11~}de³³ (N.SG), si⁵⁵wa³¹de⁵⁵ (S.SG); wai^{11~} (N.PW), wai^{31~} (S.PW)
 Note: NK, CK and S.Pwo have tone A while Sgaw and N.PWO have tone B.
188. ‘mole’ **PK: *(jow^B)wi^A *wi³** (RB)
 NK: ju⁵³wi³³ (N.PO), ju⁵⁵wi⁵³ (S.PO)
 CK: - (KN); jo¹¹wi¹¹ (KH); wi³³ (BW), ju¹¹wi³³ (KW)
 SK: wi³³ (N.SG), wi³³ (S.SG); wei⁵⁵ (N. PW), wei^{31~} (S.PW)
189. ‘money’ **PK: *hrun^A**
 NK: rən^{31~} (N.PO), ruən^{31~} (S.PO)
 CK: rwan⁵³ (KN), ri³³ (KH); hũ⁵⁵ (BW); ru⁵⁵ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
190. ‘monitor lizard (land~)’ **PK: *khwo^{2D}**
 NK: - (N.PO), - (S.PO)
 CK: re³³khõ²⁴⁵ (KN); khwɔ⁵⁵ (KH); - (B); - (KW)
 SK: khu²⁴⁵ (N.SG), khɔu²²¹ (S.SG); khau²⁴⁵ (N.PW), khɔu²³¹ (S.PW)

191. ‘monitor lizard (water~)’ **PK: *tre^A *reŋ³** (RB)
 NK: - (N.PO), - (S.PO)
 CK: - (KN); re³³ (KH); tre⁵⁵ (BW); tre⁵⁵~te⁵⁵re⁵⁵ (KW)
 SK: kre⁴⁵ (N.SG), re⁵⁵ (S.SG); - (N.PW), yei³¹~ (S.PW)
 Note: Only N.Sgaw has tone D instead of A.
192. ‘monkey’ **PK: *jo²**
 NK: jo⁴⁵ (N.PO), ju⁴⁵ (S.PO)
 CK: jo²¹ (KN); jo³³ (KH); jo¹¹ (BW); jə³³ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
193. ‘moon, month’ **PK: *la^A *la⁴** (RB)
 NK: la³¹~ (N.PO), la³¹~ (S.PO)
 CK: la⁵³ (KN); le³³ (KH); le⁵⁵ (BW); la⁵⁵ (KW)
 SK: la³³ (N.SG), la⁵⁵ (S.SG); la⁵⁵ (N.PW), la³¹~ (S.PW)
194. ‘mother, female (of animals)’ **PK: *mə^B**
 NK: mə⁵³ (N.PO), mə⁵⁵ (S.PO)
 CK: mə¹¹ (KN); mo¹¹ (KH); - mo³³ (BW); mə¹¹ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
195. ‘mouse, rat’ **PK: *jow^B *ŋy¹** (RB)
 NK: ju⁵³ (N.PO), ju⁵⁵ (S.PO)
 CK: Ju¹¹ (KN); jo¹¹ (KH); ju¹¹ (BW); ju¹¹ (KW)
 SK: ji¹¹~ (N.SG), ji³¹ (S.SG); jou¹¹ (N.PW), jou³³ (S.PW)
196. ‘mynah’ **PK: *s-raN^B**
 NK: ran⁵⁵ (N.PO), ran³³ (S.PO)
 CK: ran¹¹ (KN); - (KH); θə³³re³³ (BW); sa¹¹ra¹¹ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
 Note: Irregular vowels in CK, i.e. the vowel changes behave like the *-a rhyme pattern, not the *-aŋ one.
197. ‘nail’ **PK: *hmej^B *mi/εŋ/εŋ²** (RB)
 NK: mi⁵⁵ (N.PO), mi³³ (S.PO)
 CK: mi¹¹ (KN); mə¹¹ (KH); θə⁵⁵mi³³ (BW); mi¹¹ (KW)
 SK: me³¹~ (N.SG), mi⁴⁵ (S.SG); mei³³ (N.PW), mei⁵⁵ (S.PW)
198. ‘name’ **PK: *min^A *min³** (RB)
 NK: min³³ (N.PO), min⁵³ (S.PO)
 CK: mjəŋ³³ (KN); mi¹¹ (KH); - mi³³ (BW); mi³³ (KW)
 SK: mi³³ (N.SG), mi³³ (S.SG); mǎi⁵⁵ (N.PW); mǎi³¹~ (S.PW)
199. ‘narrow’ **PK: *ʔjɛn^B *in²** (RB)
 NK: ʔɛn⁵⁵ (N.PO), ʔɛn³³ ~ ʔɛm³³ (S.PO)
 CK: ʔjaŋ¹¹ (KN); ʔi¹¹ (KH); - (BW); - ʔi¹¹ (KW)
 SK: ʔi³¹~ (N.SG), ʔi⁴⁵ (S.SG); ʔǎi³³ (N.PW), ʔǎi⁵⁵ (S.PW)
200. ‘navel, umbilical cord’ **PK: *ʔde^A *de³** (RB)
 NK: pa⁴⁵de³¹~ (N.PO), de³¹~ (S.PO)
 CK: dai⁵³ (KN); di³³ (KH); -di⁵⁵mo⁵⁵ (BW); di³³ (KW)
 SK: de³³ (N.SG), de⁵⁵ (S.SG); di⁵⁵ (N.PW), di³¹~ (S.PW)
201. ‘neck, cheek’ **PK: *ʔbo^A *bo²** ‘cheek’ (RB)
 NK: - (N.PO), - (S.PO)
 CK: ka²¹bo⁵³ (KN); khɛ³³bo³³ (KH); -bo³³ (BW); ko³³bo⁵⁵ (KW)
 SK: kho⁴⁵bo³³ (N.SG), - (S.SG); - (N.PW), kho²¹bo³¹~ (S.PW)
202. ‘new’ **PK: *saN^A *saN⁴** (RB)
 NK: sa³¹~ (N.PO), - (S.PO)
 CK: θi⁵³ (KN); se³³ (KH); θɛ⁵⁵ (BW); sa⁵⁵ (KW)
 SK: so³³ (N.SG), so⁵⁵ (S.SG); sɛ̃³⁵ (N.PW), θɕ̃⁵³ (S.PW)

203. 'nine' **PNK: *kot^h; PCK, PSK : *khwi^A *khwi⁴ (RB)**
 NK: kot⁴⁵ (N.PO), kot⁴⁵ (S.PO)
 CK: khwi⁵³ (KN); - (KH); khwi⁵⁵ (BW); sɔ³³khⁱ⁵⁵ (KW)
 SK: khwi³³ (N.SG), khwi⁵⁵ (S.SG); khwi³⁵ (N.PW), khwi⁵³ (S.PW)
204. 'obtain, receive, take, get' **PK: *ne^B *ne¹ (RB)**
 NK: ne⁵³ (N.PO), - (S.PO)
 CK: nai¹¹ (KN); ni¹¹ (KH); ni⁵⁵ (BW); ni¹¹ (KW)
 SK: ne¹¹ (N.SG), ne³¹ (S.SG); ni¹¹ (N.PW), ni³³ (S.PW)
205. 'old (of humans)' **PK: *bra^B *phya¹ (RB)**
 NK: phra⁵³ (N.PO), pra⁵⁵ (S.PO)
 CK: pra¹¹ (KN); phre¹¹ (KH); θa³³ bwe³³ (BW); pra¹¹ (KW)
 SK: sa ʔ⁴⁵pya¹¹ (N.SG), pya³¹ (S.SG); - (N.PW), - (S.PW)
206. 'old (of things)' **PK: *lej^A *laN¹ li³ (RB)**
 NK: li³³ (N.PO), - (S.PO)
 CK: - (KN); lə¹¹ (KH); - (BW); li³³ (KW)
 SK: lə¹¹li³³ (N.SG), li³³ (S.SG); lei⁵⁵ (N.PW); lei³¹ (S.PW)
207. 'one' **PK: *t-la^T**
 NK: ta^{ʔ21} (N.PO), ta^{ʔ21} (S.PO)
 CK: la¹¹ ~ la^{ʔ21} (KN); t- (KH); to⁵⁵, tə³³-, də³³- (BW); t- (KW)
 SK: tə³³ (N.SG), tə^{ʔ21} (S.SG); la^{ʔ21}~la¹¹ (N.PW), lə³¹ (S.PW)
 Note: The tone of this etymon cannot be reconstructed due to its regularity. Very often, the word 'one' is unstressed, so its vowel has been reduced. Moreover, in some CK languages there is also the harmony of vowels in sesquisyllabic words, t 'C .
208. 'open (the mouth)' **PK: *ʔaN^A**
 NK: ʔaŋ³¹ (N.PO), ʔaŋ³¹ (S.PO)
 CK: ʔaŋ⁵³ (KN); ʔe³³ (KH); ʔ⁵⁵-tha³³ (BW); ʔ⁵⁵ (KW)
 SK: ʔə³³ (N.SG), - (S.SG); - (N.PW), ʔə³¹ (S.PW)
209. 'ox, bull, cow' **PK: *bo^B**
 NK: pho⁵³ (N.PO), po⁵⁵ (S.PO)
 CK: pau¹¹ (KN); pu¹¹ (KH); bo³³ (BW); pu¹¹ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
210. 'palm (of the hand)' **PK: *ja^A**
 NK: ja³³ (N.PO), ja⁵³ (S.PO)
 CK: ʃa³³ (KH); ja¹¹ (KH); - (BW); - (KW)
 SK: ja³³ (N.SG), - (S.SG); jə³⁵ (N.PW), ja⁵³ (S.PW)
 Note: NK and CK have tone A3 which indicates a voice onset *j- but the tone A12 in SK suggests a voiceless onset *hp-.
211. 'pangolin, anteater' **PK: *jo^A**
 NK: ju³³ (N.PO), - (S.PO)
 CK: ʃau³³ (KN); ju¹¹ (KH); ju³³-θo³³ (BW); ju³³ (KW)
 SK: ju³³ho³¹ (N.SG), ju³³ (S.SG); ju¹¹~ (N.PW); ji³¹ (S.PW)
 Note: S.Pwo has an irregular vowel, i.e. it should be u not i.
212. 'parrot, parakeet' **PK: *(tho^B)ki^B *ki² (RB)**
 NK: ki⁵⁵ (N.PO), - (S.PO)
 CK: khi¹¹ (KN); khi¹¹ (KH); ki³³~khi³³ (BW); ki¹¹ (KW)
 SK: - (N.SG), ki⁴⁵ (S.SG); kei³³ (N.PW), kei⁵⁵ (S.PW)
213. 'path, trail, way' **PK: *glə^A *klə⁴ (RB)**
 NK: - (N.PO), klai⁵³ (S.PO)
 CK: khle³³ (KN); - (KH); kle³³ (BW); kle³³ (KW)
 SK: kle³³~kle^{ʔ45} (N.SG), kle³³ (S.SG); - (N.PW); - (S.PW)
214. 'peacock' **PK: *(tho^B)bra^ʔ *phya^{ʔ1} (RB)**
 NK: - (N.PO), - (S.PO)
 CK: pra^{ʔ21} (KN); phre³³ (KH); ba¹¹ (BW); prə³³ (KW)
 SK: bya^{ʔ21}~pha^{ʔ21} (N.SG), pya¹¹ (S.SG); sja^{ʔ21} (N.PW); ɛa^{ʔ45} (S.PW)

215. ‘pen, coop’ **PK: *k-bəŋ^A**
 NK: phəŋ³³ (N.PO), pəŋ⁵³ (S.PO)
 CK: pə³³ (KN); po¹¹ (KH); - (BW); po³³ (KW)
 SK: kə¹¹po³³ (N.SG), kə²¹po³³ (S.SG); phə⁵⁵ (N.PW), phə³¹ (S.PW)
216. ‘penis’ **PK: *te^B *the² (RB)**
 NK: te⁵⁵ (N.PO), te³³ (S.PO)
 CK: thai¹¹ (KN); thi¹¹ (KH); - (BW); thi¹¹ (KW)
 SK: the³¹ (N.SG), the⁴⁵ (S.SG); thi³³ (N.PW), thi⁵⁵ (S.PW)
217. ‘pheasant’ **PK: *(tho^B)re^{2D}**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); ra³³ (KH); - (BW); - re³³ (KW)
 SK: yi²¹ (N.SG), yai¹¹ (S.SG); yai²¹ (N.PW); yai⁴⁵ (S.PW)
218. ‘pig’ **PK: *thə^{2D} *tho² (RB)**
 NK: thə²¹ (N.PO), tho²¹ (S.PO)
 CK: thau⁴⁵ (KN); the⁵⁵ (KH); thə³³ (BW); tho³³ (KW)
 SK: thə⁴⁵ (N.SG), tho²¹ (S.SG); tho⁴⁵ (N.PW); thu²¹ (S.PW)
219. ‘pile’ **PK: *plom^B**
 NK: pom⁵⁵ (N.PO), pom³³ (S.PO)
 CK: blo¹¹ (KN); plu¹¹ (KH); plo³³ (BW); plə¹¹ (KW)
 SK: pu³¹ (N.SG), pu⁴⁵ (S.SG); pāu³³ (N.PW), pōu³¹ (S.PW)
 Note: Kayah and Sgaw have irregular vowels, i.e. /u/ instead of /ə/ (Kayah) and /u/ instead of /ə/ (Sgaw).
220. ‘pointed (as of needles), sharp point’ **PK: *cu^A *cu³ (RB)**
 NK: cu³¹ (N.PO), kju³¹ (S.PO)
 CK: cu⁵³ (KN); cu³³ (KH); cu⁵⁵ (BW); cu⁵⁵ (KW)
 SK: cu⁴⁵ (N.SG), cu⁵⁵ (S.SG); cu⁵⁵ (N.PW), cu³¹ (S.PW)
 Note: N.Sgaw has tone D while the rest have tone A.
221. ‘pole’ **PK: *thuN^B**
 NK: thun⁵⁵ (N.PO), thuəm³³ (S.PO)
 CK: thwaŋ¹¹ (KN); thi¹¹ (KH); - (BW); thu¹¹ (KW)
 SK: thu³¹ (N.SG), thu⁴⁵ (S.SG); thā³³ (N.PW), thāi⁵⁵ (S.PW)
222. ‘porcupine’ **PK: *sun^B**
 NK: sun⁵⁵ (N.PO), suəm³³~suən³³ (S.PO)
 CK: θwaŋ¹¹ (KN); si¹¹ (KH); θu³³ (BW); su¹¹ (KW)
 SK: - (N.SG), su⁴⁵ (S.SG); - (N.PW), - (S.PW)
223. ‘porcupine (brush-tailed~)’ **PK: *s-ʔba^A**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); se³³be³³ (KH); - (BW); sa⁵⁵ba⁵⁵ (KW)
 SK: ba³³ (N.SG), ba⁵⁵ (S.SG); - (N.PW), θə⁵⁵ba³¹ (S.PW)
224. ‘pot’ **PK: *bəŋ^A *phəm³ (RB)**
 NK: phəŋ³³ (N.PO), pəŋ⁵³ (S.PO)
 CK: pə³³ (KN); pə¹¹ (KH); gə³³bo⁵⁵ (BW); pə³³ (KW)
 SK: sə¹¹pə³³ (N.SG), pə³³ (S.SG); phā⁵⁵ (N.PW), phə³¹ (S.PW)
225. ‘pound (v.)’ **PK: *dəŋ^B**
 NK: thəŋ⁵³ (N.PO), təŋ⁵⁵ (S.PO)
 CK: tə¹¹ (KN); - (KH); də³³ (BW); to¹¹ (KW)
 SK: to¹¹ (N.SG), tu³¹ (S.SG); - (N.PW), thə³³ (S.PW)
226. ‘pull up’ **PK: *thə^{2D}**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); - (KH); - (BW); the³³ (KW)
 SK: the⁴⁵ (N.SG), the²¹ (S.SG); the⁴⁵ (N.PW); the²¹ (S.PW)

227. ‘pumpkin (ash~)’ **PK: *luN^B**
 NK: - (N.PO), - (S.PO)
 CK: lwaŋ¹¹ (KN); li¹¹ (KH); lu¹¹ (BW); lu¹¹ (KW)
 SK: lu¹¹ (N.SG), lu³¹ (S.SG); lã¹¹ (N.PW), lã³³ (S.PW)
228. ‘push’ **PK: *chaN^B**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); chɛ¹¹ (KH); ʃa³³ (BW); chɔ¹¹ (KW)
 SK: chɔ³¹ (N.SG), chɔ⁴⁵ (S.SG); chɛ̃³³ (N.PW), chɔ̃⁵⁵ (S.PW)
229. ‘put on, wear’ **PK: *sɔʔ^D *soʔ² (RB)**
 NK: sɔʔ²¹ (N.PO), sɔʔ²¹ (S.PO)
 CK: θauʔ⁴⁵ (KN); sɛ⁵⁵ (KH); θɔ³³ (BW); so³³ (KW)
 SK: sɔʔ⁴⁵ (N.SG), soʔ²¹ (S.SG); soʔ⁴⁵ (N.PW); θuʔ²¹ (S.PW)
230. ‘put on (a necklace), wear’ **PK: *leʔ^D *liʔ¹ (RB)**
 NK: - (N.PO), - (S.PO)
 CK: liʔ²¹ (KN); la³³ (KH); li¹¹ (BW); le³³ (KW)
 SK: liʔ²¹ (N.SG), lai¹¹ (S.SG); laiʔ²¹ (N.PW); laiʔ⁴⁵ (S.PW)
231. ‘put out (the tongue)’ **PK: *hlɛm^B**
 NK: lɛm⁵⁵ (N.PO), lɛm³³ (S.PO)
 CK: ljaŋ¹¹ (KN); - (KH); - (BW); li¹¹ (KW)
 SK: le³¹ (N.SG), li⁴⁵ (S.SG); lãi³³ (N.PW), lãi⁵⁵ (S.PW)
232. ‘quail’ **PK: *(tho^B)hrwiʔ^D**
 NK: riʔ⁴⁵ (N.PO), - (S.PO)
 CK: rwiʔ⁴⁵ (KN); rwi⁵⁵ (KH); - (BW); ri³³ (KW)
 SK: pə¹¹wi³³ (N.SG), pə¹¹wi⁵⁵ (S.SG); phu³³wei³³ (N.PW); wei⁵⁵ (S.PW)
 Note: The SK languages have irregular tone changes, i.e. Sgaw has tone A while Pwo has tone B.
233. ‘rabbit, hare’ **PK: *p-ʔdɛ^A**
 NK: - (N.PO), - (S.PO)
 CK: dɛ⁵³ (KN); dɛ³³ (KH); pə³³dɛ³³ (BW); dɛ⁵⁵ (KW)
 SK: pə¹¹dɛ³³ (N.SG), - (S.SG); pa³³dɛ⁵⁵ (N.PW), pə³¹dɛ³³ (S.PW)
234. ‘raise, feed (animals)’ **PK: *ʔbə^B**
 NK: - (N.PO), - (S.PO)
 CK: bəi¹¹ (KN); bo¹¹ (KH); - (BW); bə¹¹ (KW)
 SK: bi³¹ (N.SG), bi⁴⁵ (S.SG); - (N.PW), bi⁵⁵lɔ̃³¹ (S.PW)
235. ‘rattan’ **PK: *re^B *ye¹ (RB)**
 NK: re⁵³ (N.PO), re⁵⁵ (S.PO)
 CK: rai¹¹ (KN); ri¹¹ (KH); - (BW); ri¹¹ (KW)
 SK: ye¹¹ (N.SG), re³¹ (S.SG); yi¹¹ (N.PW), yi³³ (S.PW)
236. ‘reach into’ **PK: *ʔboʔ^D**
 NK: boʔ²¹ (N.PO), buʔ²¹ (S.PO)
 CK: bɔʔ⁴⁵ (KN); bɔ⁵⁵ (KH); - (BW); bə³³ (KW)
 SK: biʔ⁴⁵ (N.SG), bɔuʔ²¹ (S.SG); bauʔ⁴⁵ (N.PW); bɔuʔ³¹ (S.PW)
237. ‘resin’ **PK: *throʔ^D**
 NK: - (N.PO), - (S.PO)
 CK: thoʔ⁴⁵ (KN); thɔ⁵⁵ (KH); thro³³ (BW); thə³³ (KW)
 SK: thiʔ⁴⁵ (N.SG), thɔuʔ²¹ (S.SG); thauʔ⁴⁵ (N.PW); thɔuʔ³¹ (S.PW)
238. ‘right (side)’ **PK: *thwɛ^A *thwe⁴ (RB)**
 NK: thwɛ³¹ (N.PO), thwɛ³¹ (S.PO)
 CK: thwɛ⁵³ (KN); thwa³³ (KH); thwɛ³³ (BW); thɛ⁵⁵ (KW)
 SK: chwe³³ (N.SG), thwɛ⁵⁵ (S.SG); - (N.PW), thwɛ⁵⁵ (S.PW)
 Note: S.Sgaw has tone B. Perhaps, the word *thwɛ⁵⁵* in S.Pwo was borrowed from S.Sgaw, *thwɛ⁵⁵*.
 There is no cognate in N.Pwo.

239. ‘ripe, cooked’ **PK: *ʔmin^A *min⁴** (RB)
 NK: min³¹ (N.PO), min³¹ (S.PO)
 CK: mjaŋ⁵³ (KN); mi³³ (KH); mi⁵⁵ (BW); mi⁵⁵ (KW)
 SK: mi³³ (N.SG), mi⁵⁵ (S.SG); mǎi⁵⁵ (N.PW), mǎi³¹ (S.PW)
240. ‘roast (by stuffing into fresh bamboo sections)’ **PK: *deN^A**
 NK: then³³ (N.PO), - (S.PO)
 CK: te³³ (KN); tai¹¹ (KH); de³³ (BW); te³³ (KW)
 SK: te³³ (N.SG), te³³ (S.SG); - (N.PW), thǎi³¹ (S.PW)
241. ‘root’ **PK: *rwi^B**
 NK: rwi⁵³ (N.PO), rwi⁵⁵ (S.PO)
 CK: rwi¹¹ (KN); rwi¹¹ (KH); wi³³ (BW); ri¹¹ (KW)
 SK: yi¹¹ (N.SG), yi³¹ (S.SG); yei¹¹ (N.PW), wei³³ (S.PW)
242. ‘rotten, bad smell’ **PK: *səŋ^A**
 NK: səŋ³¹ (N.PO), səŋ³¹ (S.PO)
 CK: θə⁵³ (KN); sɔ³³ (KH); θo⁵⁵ (BW); sə⁵⁵ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
243. ‘rub, clean, polish, scrub’ **PK: *thu^ʔ *thu^{ʔ2}** (RB)
 NK: - (N.PO), - (S.PO)
 CK: - (KN); thi⁵⁵ (KH); - (BW); - thi³³ (KW)
 SK: thu^{ʔ45} (N.SG), thəu^{ʔ21} (S.SG); thau^{ʔ45} (N.PW); thəu^{ʔ31} (S.PW)
244. ‘salt’ **PK: *sa^B *sa²** (RB)
 NK: sa⁵⁵ (N.PO), sa³³ (S.PO)
 CK: θa¹¹ (KN); se¹¹ (KH); θe³³ (BW); sa¹¹ (KW)
 SK: ʔi^{ʔ45}sa³¹ (N.SG), sa⁴⁵ (S.SG); - (N.PW), - (S.PW)
245. ‘salty, sweet’ **PK: *chim^A *chəm⁴** (RB)
 NK: chom³¹ (N.PO), chəm³¹ (S.PO)
 CK: chi⁵³ (KN); chi³³ (KH); - (BW); chi⁵⁵ (KW)
 SK: chə³³ (N.SG), chi⁵⁵ (S.SG); chǎ³⁵ (N.PW), chǎi⁵³ (S.PW)
246. ‘sand’ **PK: *hmɛ^ʔ**
 NK: - (N.PO), - (S.PO)
 CK: mɛ^{ʔ45} (KN); - (KH); - (BW); me³³ (KW)
 SK: mɛ^{ʔ45} (N.SG), mɛ^{ʔ21} (S.SG); me^{ʔ45} (N.PW); me^{ʔ21} (S.PW)
247. ‘scale (of fish)’ **PK: *s-ʔbeŋ^B**
 NK: beŋ⁵⁵ (N.PO), beŋ³³ (S.PO)
 CK: be¹¹ (KN); ba¹¹ (KH); - (BW); be¹¹ (KW)
 SK: sə¹¹ bi³³ (N.SG), - (S.SG); - (N.PW), bǎi⁵⁵ (S.PW)
 Note: Only Sgaw has tone A while Pwo (SK), NK and CK have tone B.
248. ‘sell’ **PK: *ca^A *cha⁴** (RB)
 NK: ca³¹ (N.PO), ca³¹ (S.PO)
 CK: cha⁵³ (KN); che³³ (KH); ʃɛ⁵⁵ (BW); cha⁵⁵ (KW)
 SK: cha³³ (N.SG), cha⁵⁵ (S.SG); cha³⁵ (N.PW), cha⁵³ (S.PW)
249. ‘serow, mountain goat’ **PK: *jaj^A**
 NK: jaj³³ (N.PO), - (S.PO)
 CK: jaj³³ (KN); je¹¹ (KH); ji³³ (BW); ji³³ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
250. ‘seven’ **PK: *ʔnwet^D, *ʔnwe^A**
 NK: nit²¹ (N.PO), nət⁴⁵ (S.PO)
 CK: nwe⁵³ (KN); - (KH); nwe⁵⁵~nwi⁵⁵ (BW); sɔ³³ne⁵⁵ (KW)
 SK: nwi^{ʔ45} (N.SG), nwi⁵⁵ (S.SG); nwe⁵⁵ (N.PW), nwe³¹ (S.PW)
 Note: Two protoforms which have tone A (CK, S.Sgaw, Pwo) and tone D (NK, N.Sgaw) can be reconstructed. However, the correspondence of vowels is problematical.

251. ‘sew’ **PK: *chaʔ^D *chaʔ²** (RB)
 NK: chaʔ²¹ (N.PO), chaʔ²¹ (S.PO)
 CK: chaʔ⁴⁵ (KN); che⁵⁵ (KH); ʃa³³ (BW); cho³³ (KW)
 SK: chaʔ⁴⁵ (N.SG), chaʔ²¹ (S.SG); chaʔ⁴⁵ (N.PW); chaʔ²¹ (S.PW)
252. ‘sharp’ **PK: *thaŋ^A**
 NK: thaŋ^{31~} (N.PO), thaŋ^{31~} (S.PO)
 CK: - (KN); the³³ (KH); tha⁵⁵ (BW); tho⁵⁵ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
253. ‘sheep’ **PK: *so^A**
 NK: so⁵⁵ (N.PO), so³³ (S.PO)
 CK: ʈo³³ (KN); - (KH); ʈu⁵⁵ (BW); so⁵⁵ (KW)
 SK: so³³ (N.SG), su⁵⁵ (S.SG); - (N.PW); -ʈu⁵⁵ (S.PW)
 Note: It is noticeable that the Christian Karen seem to remember the word ‘sheep’ quite well. However, this word has tone A in CK and Sgaw while it has tone B in NK and Pwo.
254. ‘shivering’ **PK: *t/k-hnəʔ^D**
 NK: taʔ²¹noʔ²¹ (N.PO), ta¹¹noʔ²¹ (S.PO)
 CK: kaʔ²¹nauʔ⁴⁵ (KN); tɛ¹¹ne⁵⁵ (KH); - (BW); kə¹¹no³³ (KW)
 SK: tə¹¹noʔ⁴⁵ (N.SG), kə¹¹noʔ²¹ (S.SG); - (N.PW); - (S.PW)
255. ‘shoot (v.)’ **PK: *khaʔ^D *khaʔ²** (RB)
 NK: khaʔ²¹ (N.PO), khaʔ²¹ (S.PO)
 CK: khaʔ⁴⁵ (KN); khe⁵⁵ (KH); khe³³ (BW); kha³³ (KW)
 SK: khaʔ⁴⁵ (N.SG), khaʔ²¹ (S.SG); khaʔ⁴⁵ (N.PW); khaʔ²¹ (S.PW)
256. ‘short, low’ **PK: *phə^B *phy²** (RB)
 NK: phə⁵⁵ (N.PO), phə³³ (S.PO)
 CK: phəi¹¹ (KN); pho¹¹ (KH); - (BW); - phə¹¹ (KW)
 SK: phi^{31~} (N.SG), phi⁴⁵ (S.SG); phəi³³ (N.PW), phi⁵⁵ (S.PW)
257. ‘shoulder’ **PK: *pleŋ^A**
 NK: pleŋ^{31~} (N.PO), pleŋ^{31~} (S.PO)
 CK: ble⁵³ (KN); pla³³ (KH); ple⁵⁵ (BW); ple⁵⁵ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
258. ‘shove (with the foot)’ **PK: *thwiN^A**
 NK: thin^{31~} (N.PO), thuəm^{31~} (S.PO)
 CK: - (KN); - (KH); - (BW); thu⁵⁵ (KW)
 SK: jɔ¹¹thu³³ (N.SG), thu⁵⁵ (S.SG); thǎ³⁵ (N.PW), thǎi⁵³ (S.PW)
259. ‘six’ **PK: *khrow^A *xy⁴** (RB)
 NK: su^{31~} (N.PO), su^{31~} (S.PO)
 CK: chu⁵³ (KN); - (KH); xu⁵⁵ (BW); - (KW)
 SK: xi³³ (N.SG), xi⁵⁵ (S.SG); xou³⁵ (N.PW), xou⁵³ (S.PW)
260. ‘skink’ **PK: *bleʔ^D *phleʔ¹** (RB)
 NK: pleʔ⁴⁵ (N.PO), pleʔ⁴⁵ (S.PO)
 CK: pleʔ²¹ (KN); pla³³ (KH); bli¹¹ca⁵⁵ (BW); ple³³ (KW)
 SK: phleʔ²¹ (N.SG), ple^{11~} (S.SG); phleʔ²¹ (N.PW); phleʔ⁴⁵ (S.PW)
261. ‘sleeping’ **PK: *hmej^Anej^B *mi⁴** (RB)
 NK: - (N.PO), - (S.PO)
 CK: mai⁵³nai¹¹ (KN); - (KH); - (BW); mi⁵⁵ni¹¹ (KW)
 SK: mi³³ne^{11~} (N.SG), mi⁵⁵ni³¹ (S.SG); - (N.PW), - (S.PW)
262. ‘slippery’ **PK: *ple^A**
 NK: ple^{31~} (N.PO), ple^{31~} (S.PO)
 CK: blai⁵³ (KN); pli³³ (KH); pli⁵⁵ (BW); pli⁵⁵ (KW)
 SK: ble³³ (N.SG), ble⁵⁵ (S.SG); phli³⁵ (N.PW), phli⁵³ (S.PW)

263. ‘smell (v.)’ **PK: *(h)nim^A**
 NK: num³³ (N.PO), nuəm⁵³ (S.PO)
 CK: nɪ³³ (KN); - (KH); nu⁵⁵ (BW); nɪ³³ (KW)
 SK: nə³³ (N.SG), nɪ⁵⁵ (S.SG); nã³⁵ (N.PW), nɛi⁵³ (S.PW)
 Note: Tone A3 in NK and CK suggests a voiceless onset (*hn-) but tone A12 in Sgaw and tone A1 in Pwo indicate a voiced onset *n-.
264. ‘snail (land~)’ **PK: *khlo^B**
 NK: khlo³¹ (N.PO), - (S.PO)
 CK: - (KN); - (KH); khlo³³ (BW); - (KW)
 SK: khlo³¹ (N.SG), khlu⁴⁵ (S.SG); khlu³³ (N.PW), khlu⁵⁵ (S.PW)
265. ‘snail (water~)’ **PK: *s - ɣwi^B**
 NK: ɣwi⁵⁵ (N.PO), ɣwi³³ (S.PO)
 CK: ɣwi¹¹ (KN); - (KH); θə⁵⁵mi³³ (BW); si¹¹mi¹¹ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
266. ‘snake’ **PK: *row^B *yy¹ (RB)**
 NK: ru⁵³ (N.PO), ru⁵⁵ (S.PO)
 CK: rəu¹¹ (KN); ro¹¹ (KH); ru³³ (BW); ru¹¹ (KW)
 SK: ɣi¹¹ (N.SG), ɣi³¹ (S.SG); ɣou¹¹ (N.PW), βou³³ (S.PW)
267. ‘son-in-law’ **PK: *maʔ^D *maʔ¹ (RB)**
 NK: maʔ⁴⁵ (N.PO), maʔ⁴⁵ (S.PO)
 CK: maʔ²¹ (KN); me³³ (KH); ma¹¹ (BW); mɔ³³ (KW)
 SK: maʔ²¹ (N.SG), ma¹¹ (S.SG); - (N.PW); maʔ⁴⁵ (S.PW)
268. ‘sour’ **PK: *chjaN^B *cheN² (RB)**
 NK: ɛja⁵⁵ (N.PO), ɛja³³ (S.PO)
 CK: ɛi¹¹ (KN); cha¹¹ (KH); ʃi³³ (BW); ɛi¹¹ (KW)
 SK: chi³¹ (N.SG), chi⁴⁵ (S.SG); chãi³³ (N.PW), chãi⁵⁵ (S.PW)
 Note: The correspondence pattern of vowels in SK suggests *-εN.
269. ‘spider’ **PK: *gaŋ^A**
 NK: kuŋ³³kaŋ³³ (N.PO), jɔŋ³¹kaŋ⁵³ (S.PO)
 CK: kaŋ³³ (KN); - (KH); ɡa¹¹-gu¹¹ (BW); ko³³ (KW)
 SK: - (N.SG), - (S.SG); pu¹¹khɛ̃⁵⁵ (N.PW), khɔ̃³¹ (S.PW)
 Note: Bwe has an irregular tone, i.e. tone 11 (D3) instead of tone 33 (A3) as in the other Karenic languages.
270. ‘spit (v.)’ **PK: *thu^A *tho² (RB)**
 NK: - (N.PO), thu³¹ (S.PO)
 CK: thu⁵³ (KN); thu³³ (KH); - (BW); - (KW)
 SK: thu⁴⁵ (N.SG), thu⁵⁵ (S.SG); thu³⁵ (N.PW), thu⁵³ (S.PW)
 Note: N. Sgaw has an irregular tone, i.e. tone D, while the rest have tone A.
271. ‘spleen’ **PK: *g- hmaN^A**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); me³³ (KH); ɡə³³ma³³ (BW); mɔ⁵⁵ (KW)
 SK: kə¹¹mɔ³³ (N.SG), mɔ⁵⁵ (S.SG); mɛ̃³⁵ (N.PW), mɔ̃⁵³ (S.PW)
272. ‘split (bamboo strip)’ **PK: *pla^B *bla² (RB)**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); - (KH); ple³³ (BW); pla¹¹ (KW)
 SK: bla³¹ (N.SG), bla⁴⁵ (S.SG); bla³³ (N.PW), bla⁵⁵ (S.PW)
273. ‘spray (v.)’ **PK: *pru^A**
 NK: phru³¹ (N.PO), pru³¹ (S.PO)
 CK: phru⁵³ (KN); - (KH); phru³³ (BW); phru⁵⁵ (KW)
 SK: - (N.SG), pru⁵⁵ (S.SG); phju⁵⁵ (N.PW), pru³¹ (S.PW)
274. ‘spread out (a mat)’ **PK: *ʔda^A *da³ (RB)**
 NK: da³¹ (N.PO), da³¹ (S.PO)
 CK: da⁵³ (KN); de³³ (KH); dɛ̃⁵⁵ (BW); da⁵⁵ (KW)
 SK: da³³ (N.SG), da⁵⁵ (S.SG); da⁵⁵ (N.PW), da³¹ (S.PW)

275. ‘squeeze, massage’ **PK: *Jim^B**
 NK: cim⁵⁵ (N.PO), cim³³ (S.PO)
 CK: ci¹¹ (KN); ci¹¹ (KH); ci³³ (BW); ci¹¹ (KW)
 SK: ci¹¹ (N.SG), ci³¹ (S.SG); chāi¹¹ (N.PW), chēi³³ (S.PW)
276. ‘squirrel’ **PK: *hli^B *li² (RB)**
 NK: li⁵⁵ (N.PO), li³³ (S.PO)
 CK: - (KN); - (KH); li¹¹ (BW); - (KW)
 SK: li⁴⁵ (N.SG), li⁴⁵ (S.SG); lei³³ (N.PW), lei⁵⁵ (S.PW)
 Note: N.Sgaw has tone D while the other Karenic languages have tone B.
277. ‘stand (v.)’ **PK: *~thəŋ^B**
 NK: thəŋ⁵⁵ (N.PO), thəŋ³³ (S.PO)
 CK: thə¹¹ (KN); thə¹¹ (KH); ʃə⁵⁵thə³³ (BW); tə¹¹ (KW)
 SK: thə³¹ (N.SG), thə⁴⁵ (S.SG); thā³³ (N.PW), thē⁵⁵ (S.PW)
278. ‘star’ **PK: *cha^B *cha² (RB)**
 NK: cha⁵⁵ (N.PO), cha³³ (S.PO)
 CK: cha¹¹ (KN); che¹¹ (KH); ʃə³³ (BW); cha¹¹ (KW)
 SK: cha³¹ (N.SG), cha⁴⁵ (S.SG); sja³³ (N.PW), ea⁵⁵ (S.PW)
279. ‘steal (v.)’ **PK: *how^B**
 NK: - (N.PO), - (S.PO)
 CK: hu¹¹ (KN); ho¹¹ (KH); a⁵⁵hu³³ (BW); hu¹¹ (KW)
 SK: hī³¹ (N.SG), hī⁴⁵ (S.SG); - (N.PW), - (S.PW)
280. ‘stingy’ **PK: *Ji^B**
 NK: ci⁵⁵ (N.PO), ci⁵³ (S.PO)
 CK: ci¹¹ (KN); - (KH); i³³ (BW); ci¹¹ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
281. ‘stomach’ **PK: *g-phow^A *phon⁴ (RB)**
 NK: - (N.PO), - (S.PO)
 CK: phu⁵³ (KN); pho³³ (KH); gə¹¹ phu⁵⁵ (BW); phu⁵⁵ (KW)
 SK: kə¹¹phi³³ (N.SG), phi⁵⁵ (S.SG); phou³⁵ (N.PW), phou⁵³ (S.PW)
282. ‘stone, rock’ **PK: *loŋ^B *loŋ¹ (RB)**
 NK: loŋ⁵³ (N.PO), loŋ⁵⁵ (S.PO)
 CK: ləu¹¹ (KN); lə¹¹ (KH); lo³³ (BW); lə¹¹ (KW)
 SK: lə¹¹ (N.SG), li³¹ (S.SG); lāu¹¹ (N.PW), lōu³³ (S.PW)
283. ‘string, rope’ **PK: *blej^A *phli³ (RB)**
 NK: phli³³ (N.PO), pli⁵³ (S.PO)
 CK: pi³³ (KN); plə¹¹ (KH); bli³³ (BW); pli³³ (KW)
 SK: pli³³ (N.SG), pli³³ (S.SG); phlei⁵⁵ (N.PW), phlei³¹ (S.PW)
284. ‘suck’ **PK: *cwiK^D**
 NK: cuk²¹ (N.PO), cu²¹ (S.PO)
 CK: cwi⁴⁵ (KN); cwi⁵⁵ (KH); - (BW); ci³³ (KW)
 SK: sə¹¹ wi⁴⁵ (N.SG), - (S.SG); - (N.PW); θə¹¹ wai³¹ (S.PW)
285. ‘sun’ **PK: *mi^B *my¹ (RB)**
 NK: mi⁵³ (N.PO), mi⁵⁵ (S.PO)
 CK: mi¹¹ (KN); mə¹¹ (KH); mu³³ (BW); mi¹¹ (KW)
 SK: mi¹¹ (N.SG), mi³¹ (S.SG); məi¹¹ (N.PW), mi³³ (S.PW)
286. ‘sunlight, hot’ **PK: *go^B *kho¹ (RB)**
 NK: ja³¹ kho⁵³ (N.PO), ko⁵⁵ (S.PO)
 CK: kau¹¹ (KN); ku¹¹ (KH); - (BW); ku¹¹ (KW)
 SK: ta¹¹ko¹¹ (N.SG), ku³¹ (S.SG); khu¹¹ (N.PW), khu³³ (S.PW)
287. ‘sway, swing’ **PK: *thu^B**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); thu¹¹ (KH); - (BW); thu¹¹ (KW)
 SK: tho³¹ (N.SG), thu⁴⁵ (S.SG); thu³³ (N.PW), thu⁵⁵ (S.PW)

288. ‘swollen, swelling’ **PK: *hpaʔ^D *ŋoʔ²** (RB)
 NK: jəʔ²¹ (N.PO), jəʔ²¹ (S.PO)
 CK: Jauʔ⁴⁵ (KN); jɛ⁵⁵ (KH); jəʔ³³ (BW); jəʔ³³ (KW)
 SK: jəʔ⁴⁵ (N.SG), jəʔ²¹ (S.SG); jəʔ⁴⁵ (N.PW); juʔ²¹ (S.PW)
289. ‘tail’ **PK: *me^B *me¹** (RB)
 NK: me⁵³ (N.PO), me⁵⁵ (S.PO)
 CK: mai¹¹ (KN); mi¹¹ (KH); me³³ (BW); mi¹¹ (KW)
 SK: me¹¹ (N.SG), me³¹ (S.SG); me¹¹ (N.PW), mi³³ (S.PW)
 Note: Sgaw and N.Pwo have irregular vowel, i.e. /ɛ/ instead of /e/.
290. ‘tasteless, faded’ **PK: *pla^A**
 NK: pla³¹ (N.PO), - (S.PO)
 CK: bla⁵³ (KN); - (KH); ple⁵⁵ (BW); - (KW)
 SK: bla³³ (N.SG), bla⁵⁵ (S.SG); bla⁵⁵ (N.PW), bla³¹ (S.PW)
291. ‘ten’ **PK: *chej^A *chi⁴** (RB)
 NK: ɛi³¹ (N.PO), ɛi³¹ (S.PO)
 CK: thi⁵³ (KN); chə³³ (KH); fi⁵⁵ (BW); ɛi⁵⁵ (KW)
 SK: chi³³ (N.SG), chi⁵⁵ (S.SG); chei³⁵ (N.PW), chei⁵³ (S.PW)
292. ‘tendon’ **PK: *thwaN^B**
 NK: - (N.PO), - (S.PO)
 CK: thu¹¹ (KN); thwa¹¹ (KH); - (BW); - (KW)
 SK: thu³¹ (N.SG), thu⁴⁵ (S.SG); thə³³ (N.PW), thə⁵⁵ (S.PW)
293. ‘termite’ **PK: *b-ʔwaN^A**
 NK: pi⁵⁵ʔwa³¹ (N.PO), pi³³ʔwa³¹ (S.PO)
 CK: ba²¹ʔu⁵³ (KN); phu⁵⁵wa³³ (KH); - (BW); - (KW)
 SK: pə¹¹ʔu⁴⁵ (N.SG), pə¹¹ʔu²¹ (S.SG); pa²¹ʔə⁵⁵ (N.PW), pu³³ʔə³¹ (S.PW)
294. ‘termite (winged~)’ **PK: *bi^B *phin¹** (RB)
 NK: phi⁵³ (N.PO), pi⁵⁵ (S.PO)
 CK: pi¹¹ (KN); pi¹¹ (KH); pə³³ʔi³³ (BW); pi¹¹ʔi¹¹ (KW)
 SK: pi¹¹ (N.SG), pi³¹ (S.SG); phai¹¹ (N.PW), phe³³ (S.PW)
 Note: Pwo vowels are irregular, i.e. /ai/ and /ei/ instead of /ei/.
295. ‘termite mound’ **PK: *ploŋ^B**
 NK: phloŋ⁵⁵ (N.PO), ploŋ³³ (S.PO)
 CK: bləu¹¹ (KN); plo¹¹ (KH); plo³³ (BW); plə¹¹ (KW)
 SK: blə³¹ (N.SG), - (S.SG); phlāu¹¹ (N.PW), phlōu³³ (S.PW)
 Note: Pwo has tone B3 which suggests a voiced onset *bl-.
296. ‘thick’ **PK: *ʔdwiN^A**
 NK: dɪn³¹ (N.PO), duəm³¹ (S.PO)
 CK: di⁵³ (KN); do³³ (KH); - (BW); du⁵⁵ (KW)
 SK: - (N.SG), - (S.SG); - (N.PW), - (S.PW)
297. ‘thin (as of cloth)’ **PK: *ʔb()^A *bun³** (RB)
 NK: bə³¹ (N.PO), bə³¹ (S.PO)
 CK: bi⁵³ (KN); bi³³ (KH); - (BW); - (KW)
 SK: bu³³ (N.SG), bu⁵⁵ (S.SG); - (N.PW), baə³¹ (S.PW)
298. ‘thousand’ **PK: *hrej^A, *g-thəN^A *thəŋ⁴** (RB)
 NK: reŋ³¹ (N.PO), reŋ³¹ (S.PO)
 CK: re⁵³ (KN); ri³³ (KH); gə³³thə⁵⁵ (BW); re⁵⁵, tho³³ (KW)
 SK: kə¹¹thə³³ (N.SG), thu⁵⁵ (S.SG); - (N.PW), thə⁵³ (S.PW)
 Note: *hrej^A = thousand (amount of money), *g-thəN^A = thousand (people)
299. ‘thread (a needle)’ **PK: *dow^B**
 NK: thu⁵³ (N.PO), tu⁵⁵ (S.PO)
 CK: tu¹¹ (KN); to¹¹ (KH); du³³ (BW); tu¹¹ (KW)
 SK: ti¹¹ (N.SG), ti³¹ (S.SG); thou¹¹ (N.PW), thou³³ (S.PW)

300. ‘three’ **PK: *səm^A *səm⁴** (RB)
 NK: səm³¹ (N.PO), səm³¹ (S.PO)
 CK: θə⁵³ (KN); sɔ³³ (KH); θo⁵⁵ (BW); sə⁵⁵ (KW)
 SK: sə³³ (N.SG), sə⁵⁵ (S.SG); sã³⁵ (N.PW), sã⁵³ (S.PW)
301. ‘tick’ **PK: *khej^B *khi²** (RB)
 NK: - (N.PO), - (S.PO)
 CK: khi¹¹ (KN); khə¹¹ (KH); khi³³ (BW); khi¹¹ (KW)
 SK: khi³¹ (N.SG), khi⁴⁵ (S.SG); khe³³ (N.PW), khe⁵⁵ (S.PW)
302. ‘tie (a string)’ **PK: *cəŋ^A *cəm³** (RB)
 NK: cəŋ³¹ (N.PO), cəŋ³¹ (S.PO)
 CK: cə⁵³ (KN); cə³³ (KH); cə⁵⁵ (BW); cə⁵⁵ (KW)
 SK: cə³³ (N.SG), cə⁵⁵ (S.SG); cã⁵⁵ (N.PW), cã³¹ (S.PW)
303. ‘tiger’ **PK: *ke^A *khe⁴** (RB)
 NK: ke³¹ (N.PO), ke³¹ (S.PO)
 CK: khai⁵³ (KN); khi³³ (KH); khi⁵⁵ (BW); khi⁵⁵ (KW)
 SK: khe³³ji¹¹ ‘lion’ (N.SG), - (S.SG); khi³⁵ (N.PW), khi⁵³ (S.PW)
304. ‘tilted’ **PK: *khiŋ^A**
 NK: khiŋ⁵⁵ (N.PO), khiŋ³³ (S.PO)
 CK: khi⁵³ (KN); khi³³ (KH); - (BW); khi⁵⁵ (KW)
 SK: khi³³ (N.SG), - (S.SG); khã³⁵ (N.PW), khẽ⁵³ (S.PW)
 Note: NK has the B tone while CK and SK have tone A.
305. ‘toad’ **PK: *ʔde^Bsow^B**
 NK: de⁵⁵su⁵⁵ (N.PO), de³³su³³ (S.PO)
 CK: dai¹¹θu¹¹ (KN); di¹¹so¹¹ (KH); di³³θu³³ (BW); di¹¹su¹¹ (KW)
 SK: de³¹si³¹ (N.SG), di⁴⁵si⁴⁵ (S.SG); di³³sou³³ (N.PW), di⁵⁵sou⁵⁵ (S.PW)
306. ‘tomorrow’ **PK: *~rɔ^A**
 NK: mi⁵³rau³³ (N.PO), mi⁵⁵rau⁵³ (S.PO)
 CK: - (KN); pa⁵⁵ro¹¹ (KH); - (BW); mə¹¹ro³³ (KW)
 SK: lə^{ʔ45}ɔ³³ (N.SG), ɔ³³ (S.SG); khe¹¹ɔ⁵⁵ (N.PW), - (S.PW)
307. ‘tongue’ **PK: *ble^A *phle³** (RB)
 NK: phle³³ (N.PO), ple⁵³ (S.PO)
 CK: plai³³ (KN); pli¹¹ (KH); - bli¹¹ (BW); pli³³ (KW)
 SK: ple³³ (N.SG), ple³³ (S.SG); pli⁵⁵ (N.PW), phli³¹ (S.PW)
308. ‘torn’ **PK: *dɛ^{ʔD}/*dwe^{ʔD}**
 NK: the^{ʔ45} (N.PO), tɛ^{ʔ45} (S.PO)
 CK: tu^{ʔ21} (KN); ti³³ (KH); the³³ (BW); tu³³ (KW)
 SK: tɛ^{ʔ21} (N.SG), tɛ¹¹ (S.SG); the^{ʔ21} (N.PW); the^{ʔ45} (S.PW)
 Note: CK has irregular vowels.
309. ‘tortoise’ **PK: *kli^{ʔD} *khli^{ʔ2}** (RB)
 NK: kle^{ʔ21} (N.PO), kli^{ʔ21} (S.PO)
 CK: khli^{ʔ45} (KN); khli⁵⁵ (KH); khli³³ (BW); khli³³ (KW)
 SK: khli^{ʔ45} (N.SG), khli^{ʔ21} (S.SG); khli^{ʔ45} (N.PW); khli^{ʔ31} (S.PW)
310. ‘tread’ **PK: *jam^B**
 NK: jam⁵³ (N.PO), jam⁵⁵ (S.PO)
 CK: ʃaŋ¹¹ (KN); ji¹¹ (KH); ja³³ (BW); - (KW)
 SK: jə¹¹ (N.SG), jə³¹ (S.SG); jã¹¹ (N.PW), jã³³ (S.PW)
 Note: Pwo has irregular vowels, i.e. /ã/ instead of /ẽ/ (N.PW) and /õ/ (S.PN).
311. ‘trunk (of a tree), firewood’ **PK: *məŋ^B**
 NK: miŋ⁵³ (N.PO), məŋ⁵⁵ (S.PO)
 CK: mə¹¹ (KN); mə¹¹ (KH); - (BW); mə¹¹ (KW)
 SK: mi¹¹ (N.SG), - (S.SG); mã¹¹ (N.PW), - (S.PW)

312. ‘trunk (of an elephant)’ **PK: *k-mlɔN^A *mlɔŋ³ (RB)**
 NK: - (N.PO), mɔ⁵³ (S.PO)
 CK: mɔ³³ (KN); mɔ¹¹ (KH); -blɔ¹¹ (BW); - (KW)
 SK: kə¹¹mlɔ³³ (N.SG), mlu³³ (S.SG); mlɔ⁵⁵ (N.PW), mlɔ³¹ (S.PW)
313. ‘two’ **PK: *k-hnej^A *ni⁴ (RB)**
 NK: ni³¹ (N.PO), ni³¹ (S.PO)
 CK: ŋi⁵³ (KN); nə³³ (KH); ki⁵⁵ (BW); ki⁵⁵ (KW)
 SK: khi³³ (N.SG), khi⁵⁵ (S.SG); khe³⁵ (N.PW), nei⁵³ (S.PW)
314. ‘urine’ **PK: *chej^B *chi² (RB)**
 NK: ei⁵⁵ (N.PO), ei³³ (S.PO)
 CK: - (KN); chə¹¹ (KH); ji³³ (BW); chi¹¹ (KW)
 SK: chi³¹ (N.SG), chi⁴⁵ (S.SG); chei³³ (N.PW), chei⁵⁵ (S.PW)
315. ‘vagina’ **PK: *lin^B *lin¹ (RB)**
 NK: lin⁵³ (N.PO), lim⁵⁵~lin⁵⁵ (S.PO)
 CK: - (KN); li¹¹ (KH); - (BW); li¹¹ (KW)
 SK: li¹¹ (N.SG), li³¹ (S.SG); lăi¹¹ (N.PW), lăi³³ (S.PW)
316. ‘vomit (v.)’ **PK: *prɔʔ^D**
 NK: prɔʔ²¹ (N.PO), prɔʔ²¹ (S.PO)
 CK: phrauʔ⁴⁵ (KN); phre⁵⁵ (KH); pɔ³³ (BW); pro³³ (KW)
 SK: bɔʔ⁴⁵ (N.SG), bɔʔ²¹ (S.SG); pjoʔ⁴⁵ (N.PW); pjuʔ²¹ (S.PW)
317. ‘vulture’ **PK: *hlaŋ^{A/B} k-daʔ^D *laN⁴kaʔ²thaʔ¹ (RB)**
 NK: leŋ⁵⁵taʔ⁴⁵ (N.PO), lɔŋ³³taʔ⁴⁵ (S.PO)
 CK: - (KN); le¹¹ta³³ (KH); lə³³da⁵⁵ (BW); la¹¹ta³³ (KW)
 SK: lə³³kə¹¹taʔ²¹ (N.SG), lə³³kə¹¹ta¹¹ (S.SG); lə³⁵kaʔ²¹thaʔ²¹ (N.PW); lə⁵³kaʔ²¹thaʔ⁴⁵ (S.PW)
318. ‘waist’ **PK: *j-ʔde^A**
 NK: ~de³¹ (N.PO), ~de³¹ (S.PO)
 CK: - (KN); - (KH); ja³³de¹¹ (BW); - (KW)
 SK: jə¹¹de³³ (N.SG), jə³¹de⁵⁵ (S.SG); ja¹¹di⁵⁵ (N.PW), jă³³di³¹ (S.PW)
319. ‘wart’ **PK: *thuʔ^D**
 NK: - (N.PO), - (S.PO)
 CK: - (KN); thi⁵⁵ (KH); - (BW); thi³³ (KW)
 SK: thuʔ⁴⁵ (N.SG), thəuʔ²¹ (S.SG); thauʔ⁴⁵ (N.PW); thəuʔ³¹ (S.PW)
320. ‘warm’ **PK: *lam^A *ləm³ (RB)**
 NK: - (N.PO), lam⁵³ (S.PO)
 CK: la³³ (KN); le¹¹ (KH); le³³ (BW); la³³ (KW)
 SK: kə¹¹lə³³ (N.SG), lə³³ (S.SG); la⁵⁵ (N.PW), lə³¹ (S.PW)
 Note: It is not certain if the *-a or *-aN rhyme should be reconstructed. S.Pa-O, Sgaw and S.Pwo suggest *-aN while the rest indicate *-a.
321. ‘wash (the face)’ **PK: *bla^B**
 NK: phla⁵³ (N.PO), pla⁵⁵ (S.PO)
 CK: pla¹¹ (KN); ple¹¹ (KH); bla³³ (BW); pla¹¹ (KW)
 SK: pla¹¹ (N.SG), pla³¹ (S.SG); phla¹¹ (N.PW), phla³³ (S.PW)
 Note: Bwe has an irregular vowel, i.e. /a/ instead of /ɛ/.
322. ‘wash (clothes)’ **PK: *chrow^B *chy² (RB)**
 NK: paʔ²¹chu⁵⁵ (N.PO), chu³³ (S.PO)
 CK: chu¹¹ (KN); cho¹¹ (KH); - (BW); chu¹¹ (KW)
 SK: chy³¹ (N.SG), chy⁴⁵ (S.SG); - (N.PW), - (S.PW)
323. ‘wasp’ **PK: *(dəŋ^B)ʔde^A**
 NK: kaʔ²¹de³¹ (N.PO), - (S.PO)
 CK: dauʔ⁴⁵dai⁵³ (KN); di³³ (KH); - (BW); di⁵⁵ (KW)
 SK: tə¹¹de³³ (N.SG), ti³¹de⁵⁵ (S.SG); thă¹¹di⁵⁵ (N.PW), thă³³di³¹ (S.PW)

324. ‘water’ **PK: *thej^A *thi⁴** (RB)
 NK: thi^{31~} (N.PO), thi^{31~} (S.PO)
 CK: thi⁵³ (KN); thə³³ (KH); chi⁵⁵ (BW); thi⁵⁵ (KW)
 SK: thi³³ (N.SG), thi⁵⁵ (S.SG); thei³⁵ (N.PW), thei⁵³ (S.PW)
325. ‘wear (a shoulder bag)’ **PK: *ch(w)ɛŋ^A**
 NK: chɛŋ^{31~} (N.PO), chɛŋ^{31~} (S.PO)
 CK: ɛi⁵³ (KN); cha³³ (KH); - (BW); ɛi⁵⁵ (KW)
 SK: che³³thə^{31~} (N.SG), chi⁵⁵ (S.SG); chăi³⁵ (N.PW), chwăi⁵³ (S.PW)
326. ‘weave (cloth), loom’ **PK: *tha^B *tha²** (RB)
 NK: - (N.PO), cha³³ (S.PO)
 CK: tha¹¹ (KN); the³³ (KH); - (BW); tha¹¹ (KW)
 SK: tha^{31~} (N.SG), tha^{45~} (S.SG); tha³³ (N.PW), tha⁵⁵ (S.PW)
327. ‘weave (baskets)’ **PK: *thɛŋ^A *thɛŋ¹** (RB)
 NK: thɛŋ^{31~} (N.PO), thɛŋ^{31~} (S.PO)
 CK: thi⁵³ (KN); tha³³ (KH); the⁵⁵ (BW); thi⁵⁵ (KW)
 SK: the³³ (N.SG), thi⁵⁵ (S.SG); thăi³⁵ (N.PW), thăi⁵³ (S.PW)
328. ‘weevil’ **PK: *roŋ^B**
 NK: roŋ⁵³ (N.PO), roŋ⁵⁵ (S.PO)
 CK: ro¹¹ (KN); rə¹¹ (KH); - (BW); rə¹¹ (KW)
 SK: ɣə^{11~} (N.SG), ɣi³¹ (S.SG); ɣău¹¹ (N.PW), βəu³³ (S.PW)
329. ‘wet’ **PK: *cə^B *cə²** (RB)
 NK: cau⁵⁵ (N.PO), cau³³ (S.PO)
 CK: cau¹¹ (KN); co¹¹ (KH); cə³³ (BW); co¹¹ (KW)
 SK: ba^{31~}cə^{31~} (N.SG), cə^{45~} (S.SG); cə³³ (N.PW), co⁵⁵ (S.PW)
330. ‘white’ **PK: *ʔbwa^A *ʔwa³** (RB)
 NK: bwa^{31~} (N.PO), bwa^{31~} (S.PO)
 CK: bau⁵³ (KN); bu³³ (KH); ʔu⁵⁵ (BW); bu⁵⁵ (KW)
 SK: kwa³³ (N.SG), wa⁵⁵ (S.SG); - (N.PW), kwa^{31~} (S.PW)
331. ‘wide’ **PK: *lɛ^B *lɛ¹** (RB)
 NK: lai⁵³ (N.PO), lai⁵⁵ (S.PO)
 CK: lɛ¹¹ (KN); lɛ¹¹ (KH); la³³lɛ³³ (BW); lɛ¹¹ (KW)
 SK: lɛ^{11~} (N.SG), lɛ³¹ (S.SG); lɛ^{11~} (N.PW), lɛ³³ (S.PW)
332. ‘wife’ **PK: *hma^A *ma⁴** (RB)
 NK: ma^{31~} (N.PO), ma^{31~} (S.PO)
 CK: ma⁵³ (KN); me³³ (KH); mɛ⁵⁵ (BW); ma⁵⁵ (KW)
 SK: ma³³ (N.SG), ma⁵⁵ (S.SG); ma³⁵ (N.PW), ma⁵³ (S.PW)
333. ‘wild’ **PK: *mi^A *min³** (RB)
 NK: mi³³ (N.PO), mi⁵³ (S.PO)
 CK: mi³³ (KN); mi¹¹ (KH); - (BW); mi³³ (KW)
 SK: mi³³ (N.SG), mi³³ (S.SG); mei⁵⁵ (N.PW), mei^{31~} (S.PW)
334. ‘win’ **PK: *niŋ^A**
 NK: nəŋ³³ (N.PO), nəŋ⁵³ (S.PO)
 CK: ni³³ (KN); ni¹¹ (KH); - (BW); - (KW)
 SK: nə³³ (N.SG), ni³³ (S.SG); nă⁵⁵ (N.PW), năi^{31~} (S.PW)
335. ‘wing’ **PK: *ʔdeʔ^D *diʔ²** (RB)
 NK: deʔ²¹ (N.PO), diʔ²¹ (S.PO)
 CK: - (KN); da⁵⁵ (KH); dɛ³³ (BW); de³³ (KW)
 SK: diʔ⁴⁵che³³ (N.SG), daiʔ²¹ (S.SG); daiʔ⁴⁵ (N.PW); daiʔ³¹ (S.PW)
336. ‘wrong, mistake, error’ **PK: *g/k-hma^B *ma²** (RB)
 NK: ma⁵⁵ (N.PO), ma³³ (S.PO)
 CK: - (KN); - (KH); gə³³ mɛ³³ (BW); ma¹¹ (KW)
 SK: kə¹¹ma^{31~} (N.SG), ma^{45~} (S.SG); - (N.PW), ma⁵⁵ (S.PW)

337. ‘yam, potato’ **PK: *hnwε^B *mwε²** (RB)
 NK: nwe⁵⁵ (N.PO), nwe³³ (S.PO)
 CK: nwe¹¹ (KN); - (KH); nwe³³ (BW); ne¹¹ (KW)
 SK: nwe¹¹ (N.SG), nwe⁴⁵ (S.SG); ne³³ (N.PW), ne⁵⁵ (S.PW)
338. ‘year’ **PK: *hneŋ^B *nin²** (RB)
 NK: neŋ⁵⁵ (N.PO), neŋ³³ (S.PO)
 CK: ne¹¹ (KN); na¹¹ (KH); dē³³ (BW); de¹¹ (KW)
 SK: ni³¹ (N.SG), ni⁴⁵ (S.SG); nāi³³ (N.PW), nēi⁵⁵ (S.PW)
339. ‘yellow’ **PK: *ʔbaŋ^A *baŋ³** (RB)
 NK: - (N.PO), - (S.PO)
 CK: baŋ⁵³ (KN); be³³ (KH); - (BW); bō⁵⁵ (KW)
 SK: bō³³ (N.SG), bō⁵⁵ (S.SG); bē⁵⁵ (N.PW), bō³¹ (S.PW)
340. ‘yes’ **PK: *mwε^B**
 NK: mwe⁵³ (N.PO), mwe⁵⁵ (S.PO)
 CK: mwe¹¹ (KN); ma¹¹ (KH); - (BW); me¹¹ (KW)
 SK: me¹¹ (N.SG), mē³¹ (S.SG); me¹¹ (N.PW), mwe³³ (S.PW)
341. ‘young, soft, tender’ **PK: *Ja^B *cha¹** (RB)
 NK: cha⁵³ (N.PO), ca⁵⁵ (S.PO)
 CK: ca¹¹ (KN); ce¹¹ (KH); je³³ (BW); ca¹¹ (KW)
 SK: - (N.SG), ca³¹ (S.SG); - (N.PW), - (S.PW)

There are five more PK roots where I am not so sure how they should be reconstructed: *phow^A ‘grandfather’, *hi^B ‘house’, *ch()m^B ‘mortar’, *moʔ^D ‘sky’, *(hme^B) khlow^B ‘smoke’ (n.) and *k/g-li^A ‘wind’.

7 Remarks on the internal and external classifications

Internal classification

With regard to the classification and subgrouping of Karenic languages, Manson (2009, 2011) gives a good overview of what has been proposed by Jone (1961), Burling (1969), Kauffman (1993), Bradley (1997) and Shintani (2003). He comments: “...all lacked in comprehensiveness and/or have not been based on the comparative method...” and then, concludes his recent findings: “Based on a database of over 130 language varieties, Karen languages are divided into at least 20 low level clusters based on shared phonological developments” (Manson, 2011:1).²⁰

We can see from the existing classifications that when different criteria are used different results are achieved. Since the previous classifications were based on geographical, lexical or phonological criteria, I would like to propose here a new look at the classification of Karenic languages based on the semantic development of six basic noun classifiers. The use of basic noun classifiers in the present reflects not only their modern worldview but also helps the reconstruction of the past one.

To investigate the use of noun classifiers in modern Karenic languages and to reconstruct the cognitive or conceptual system of the basic noun classification in Proto-Karen, a word list comprising 175 items was devised. The phrase frame used for eliciting noun classifiers during the interviews with native speakers was : N-NUM-(CLF), e.g. “chicken-two..., sugarcane-two ..., plate-two....”. To obtain the cognate sets of basic noun classifiers, and the data on nine Karen language varieties, i.e. N. Pa-O, S.Pa-O, Kayan, Kayah, Kayaw, N. Sgaw, S.Sgaw, N. Pwo and S. Pwo, were analysed and compared. The results can be summarised as in (1) – (10).

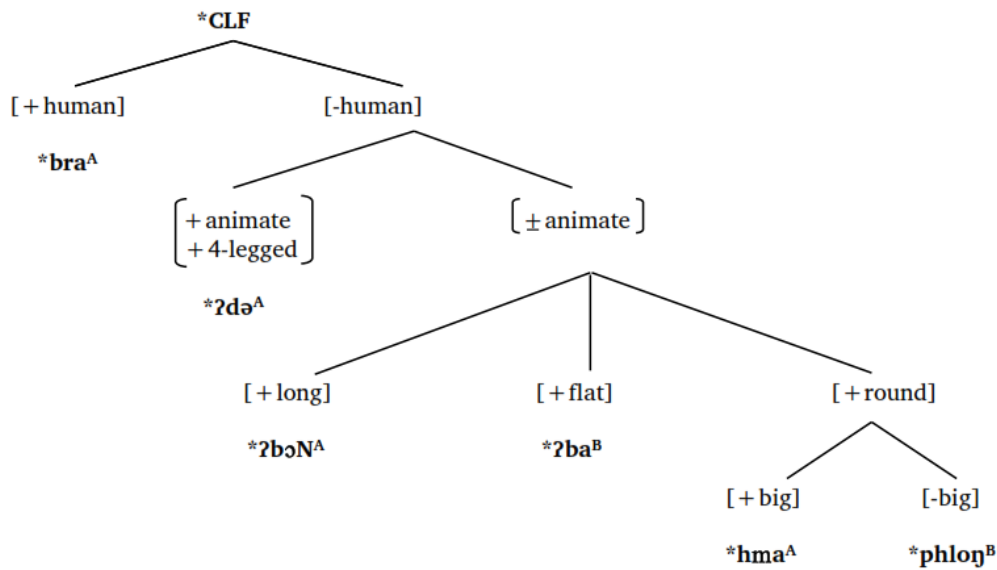
²⁰ In his earlier version (2009:1), Manson says that Karen languages are divided into 7 low level clusters. This analysis is based on a database of over 100 language varieties. It is interesting to note that the increase in the number of languages (from 100-130) is also an increase of low level clusters (from 7-20).

(1) The cognate sets and the PK reconstructed forms :

Gloss	PK	N.Pa-O	S.Pa-O	Kayan	Kayah	Kayaw	N.Sgaw	S.Sgaw	N.Pwo	S.Pwo
[+human]	*bra ^A	phra ³³	pra ⁵³	pra ³³	phre ¹¹	ra ³³	pya ³³	ya ³³	ya ⁵⁵	ya ³¹ ..
[+4-legged]	*ʔdə ^A	-	-	dəi ⁵³	do ³³	də ⁵⁵	di ³³	di ⁵⁵	dəi ⁵⁵	dəi ³¹ ..
[+long]	*ʔbɔN ^A	-	-	bɔ ⁵³	bo ³³	bo ⁵⁵	bo ³³	bu ⁵⁵	bɔ ⁵⁵	bɔ ³¹ ..
[+flat]	*ʔba ^B	ba ⁵⁵	ba ³³	ba ¹¹	be ¹¹	ba ¹¹	be ³¹ ~	bi ⁴⁵	bai ³³	bai ⁵⁵
[+round]	*phlɔŋ ^B	phlɔŋ ⁵⁵	phlɔŋ ³³	phəu ¹¹	phlɔ ¹¹	phlɔ ¹¹	phlɔ ³¹ ~	phli ⁴⁵	phlāu ³³	phlōu ⁵⁵
[+round] [+ big]	*hma ^A	-	-	ma ⁵³	me ³³	ma ⁵⁵	-	-	-	-

(2) The PK conceptual system of basic noun classification based on the six noun classifiers is presented in Figure 5.

Figure 5: Conceptual system of basic noun classification in Proto-Karen



(3) The conceptual system as revealed by the use of basic noun classifiers shows how Karenic people construe their world of experience.

(4) Karen speakers primarily make a distinction between [+human] and [-human]. The [-human] category can be [+animate] or [±animate]. The [+animate] must be [+4-legged], while the [±animate] (if [+animate] must be [4-legged]) can be [+long],[+flat] or [+round]. The [+round] can be [+big] or [-big].

(5) From three to six basic noun classifiers were found in the nine modern Karenic language varieties studied, i.e. three in N. Pa-O and S.Pa-O; five in N.Sgaw, S.Sgaw, N. Pwo and S. Pwo; and six in Kayan, Kayah and Kayaw.

(6) “Shape” is more important than “size” in the Karen worldview.

(7) Based on the use of noun classifiers, the nine Karenic language varieties investigated can be classified into three groups : a. Pa-O; b. Kayan, Kayah and Kayaw; and c. Sgaw and Pwo.

(8) *hma^A [+round,+big] has been lost in Pa-O, Sgaw and Pwo. This means that the distinctive semantic values of *hma^A [+round,+big] and *phlɔŋ^B[+round, -big] have merged. Since *phlɔŋ^B has only been retained in Pa-O, Sgaw and Pwo, the meaning of *phlɔŋ^B has been changed to [+round], i.e. the distinction between the sizes [+big,-big] of round objects is no longer significant.

(9) The Pa-O seem to have a somewhat different conceptual system of noun classification,²¹ for example, the classifier [+flat], which is ba⁵⁵ in N. Pa-O and ba³³ in S. Pa-O, is used for most animals, except for snails and tortoises.

²¹ The Pa-O do not think that they are Karen but that they are a separate ethnic group. The Pa-O living and/or working in Thailand even have their own “National Day” which they celebrate annually. They can be found in Bangkok and in factories located in the vicinity of Bangkok. They regularly gather on Sundays for chatting and special events.

(10) Tai words, non-classifiers and classifiers, have been borrowed into N. Pa-O and used as classifiers, e.g. *law*³³ ‘clf. for flutes’, *li*⁵³ ‘clf. for long objects’ (from *ri* A4 ‘long’), *phi*³³ ‘clf. for mats, blankets, etc.’ (from *phiin* A1), *phoŋ*⁵⁵ ‘flock, herd’ (from *fuuŋ* A1) and so on. In the other Karenic language varieties studied, the classifier *ʔd̥a^A is only used for 4-legged animals, whereas the other animal species are classified according to their shape as the shapes of objects. The Pa-O use *ʔba^B [+flat] as the classifier for all animal species without considering their shape, the same way as the use of the classifier tuəA3/toA3 in Tai languages.

The above findings suggest the fact that the Pa-O, especially the northern group settling in the Shan State of Myanmar, have been in contact with Tai speaking peoples for a long time, long enough to have their worldview changed. A large number of Austroasiatic loans can also be found in S. Pa-O and Pwo, as has been pointed out by Luce (1959) and Bauer (1992), due to their contact relationship with Mon, Palaung and Wa speakers. Most of the Pa-O men migrated to Thailand when they were quite young. The easiest way to get into the country was to be ordained as novices and come under the protection of famous and powerful Mon monks. A few years later, they left the temples to look for available jobs to earn their living.

In conclusion, a cognitive or conceptual system of noun classification can be used as additional evidence for language classification. The different conceptual system of noun classification of the Pa-O gives a hint that the Pa-O separated from the other Karenic speaking groups quite early in time. Generally, my finding more or less support the classifications proposed by Kauffman (1993) and Shintani (2003), even though their classifications are based on different criteria.

External classification

It has widely been accepted that Karenic is a branch of Tibeto-Burman. Weidert, one of the Tibeto-Burman specialists, states this quite explicitly in his monograph *Tibeto-Burman tonology* (1987). He provides a long list of both the present-day Karen roots and the reconstructed PK ones from many sources and compares them with the cognates, or in some cases lookalike words, found in the other branches of Tibeto-Burman with emphasis on the TB languages spoken in areas distant from where the Karen live, to avoid cases of contact relationship. About 168 etyma are given in the monograph, the detail of which are to be found on pages 334-367 of the monograph.

To support the view that Karenic is a branch of Tibeto-Burman, I compared my reconstructed PK roots (see the PK lexicon part) with the PTB roots reconstructed by Matisoff (2003) and/or Benedict (1972) which can also be accessed from the STEDT database. The following is a summary of my findings with regard to the retentions and some sound changes from PTB to PK.

(1) Retention of PTB *a in PK

PTB *g/m/b-la-y > PK *ʔla ^B ‘arrow’	PTB *tsa-t, *tsa > PK *cha ^A ‘ill’
PTB *g-p ^w a, *r-p ^w a, *r-wa > PK *hwa ^B ‘bamboo’	PTB *m-twa > PK *tha ^A ‘handspan’
PTB *ka > PK *kha ^B ‘bitter’	PTB *r/g-na > PK *hna ^B ‘listen to’
PTB *s-ka > *m-ka-y > PK *ka ^B ‘chin, jaw’	PTB *pa > PK *pha ^A ‘male, father’
PTB *ra > PK *bra ^A ‘person, people’	PTB *s/g-la > PK *ʔla ^A ‘moon, month’
PTB *ma-t > PK *ma ^B ‘lost, disappear’	PTB *tsa > PK *sa ^B ‘salt’
PTB *r/g-na, *s-na > PK *na ^B ‘ear’	PTB *b-wa > PK *ʔbwa ^A ‘white’
PTB *r-gya > PK *g-rja ^A ‘hundred’	PTB *ŋya > PK *hna ^B ‘flesh, meat’
PTB *pwa, *wa > PK *gwa ^A ‘husband’	PTB *m-twa, *twa > PK *tha ^A ‘handspan’

(2) Retention of PTB *-N in PK

PTB *d-wam > PK *tham ^A ‘bear (animal)’	PTB *mi:n > PK *min ^A ‘name’
PTB *ʔam > PK *ʔam ^B ‘drink’	PTB *s-min > PK *hmin ^A ‘ripe, cooked’
PTB *r/s-man > PK *maŋ ^B ‘dream’	PTB *dzyim > PK *chim ^A ‘salty, sweet’
PTB *r-kaŋ > PK *khaŋ ^B ‘leg’	PTB *m-nam > PK *(h)nim ^A ‘smell’
PTB *kaŋ > PK *gaŋ ^A ‘spider’	PTB *r-luŋ > PK *loŋ ^B ‘stone, rock’
PTB *g-laŋ > PK *hlaŋ ^{A/B} ‘hawk, vulture’	PTB *s-toŋ > PK *g-thoN ^A ‘thousand’
PTB *m-sin > PK *swin ^B ‘liver’	PTB *g-sum > PK *səm ^A ‘three’
PTB *s-luŋ > PK *hloŋ ^B ‘maggot’	PTB *s-ni (:) ŋ > PK *hneŋ ^B ‘year’

(3) PTB *vd. C- > PK *Vl. C-/ *glottalised C-

PTB *d-wam > PK *tham ‘bear (animal)’
 PTB *dow > PK *tho^B ‘bird’
 PTB *mi > PK *hmi^B ‘femal, woman’
 PTB *mey > PK *hme^B ‘fire’
 PTB *ba:r > PK *pho^A ‘flower’
 PTB *lap > PK *hla^B ‘leaf’
 PTB *r-na > PK *hna^B ‘listen to’
 PTB *r-wa > PK *hwa^B ‘bamboo’
 PTB *dwəy > PK *ʔdej^B ‘egg’

PTB *d-yuk > PK *t-khroʔ^D ‘sambha deer’
 PTB *dzyim > PK *chim^A ‘salty, sweet’
 PTB *b-wa > PK *ʔbwa^A ‘white’
 PTB *ga:p > PK *khaʔ^D ‘shoot (v.)’
 PTB *gwa-n > PK *chwəŋ^A ‘wear (shoulder bag)’
 PTB *dzo:p > PK *cwiK^D ‘suck’
 PTB *g-nis > PK *k-hnej^A ‘two’
 PTB *g-lan > PK *hlan^{A/B} ‘hawk’
 PTB *d-ləy > PK *klej^B ‘crossbow’

(4) PTB *s-Vd. Sonorant > PK *vl. sonorant

PTB *s-min > PK *hmin^A ‘ripe, cooked’
 PTB *s-lej > PK *hli^B ‘squirrel’
 PTB *s-ni(:)ŋ > PK *hneŋ^B ‘year’

PTB *s-luŋ > PK *hloŋ^B ‘maggot’
 PTB *s-mwəy > PK *hmej^A ‘sleep’
 PTB *s-lay > PK *hlaj^B ‘lick’

(5) PTB *vl. unaspl. Stop > PK *vl. aspl. Stop

PTB *tak > PK *tha^B ‘weave (cloth)’
 PTB *r-kaŋ > PK *khaŋ^B ‘leg’
 PTB *pa > PK *pha^A ‘male, father’
 PTB *s-kew > PK *khwi^A ‘nine’
 PTB *d-kruk > PK *khrow^A ‘six’

PTB *kroy > PK *khlo^B ‘snail’
 PTB *s-toŋ > PK *g-thoN^A ‘thousand’
 PTB *krəw-t > PK *chrow^B ‘wash (clothes)’
 PTB *pwa:y > PK *phe^A ‘bran, chaff’

(6) PTB *-r > PK *-∅

PTB *s(y)ar > PK *gra^B ‘insect’
 PTB *swa:r > PK *chja^B ‘sour’

PTB *s-kar > PK *cha^B ‘star’

(7) PTB *-s > PK *-t

PTB *was > PK *kwat^D ‘bee (Apis cerana)’
 PTB *rus > PK *khrwit^D ‘bone’

PTB *s-nis > PK *ʔnwet^D ‘seven’

(8) PTB *-stop = *-stop or > *-ʔ in PK

PTB *nuk > PK *nok^D ‘brain’
 PTB *b-r-gyat > *b-g-ryat > PK *khr/grət^D ‘eight’

PTB *k-r-pwat > PK *s-waʔ^D ‘land leech’
 PTB *ʔap > *ga:p > PK *khaʔ^D ‘shoot (v.)’

PTB *smik > *s-myak > PK *meʔ^D ‘eye, face’
 PTB *l-tsyak > PK *thaʔ^D ‘iron, needle’
 PTB *m-sak > PK *saʔ^D ‘itchy’

PTB *ma:k > PK *maʔ^D ‘son-in-law’
 PTB *dzo:p > PK *cwiK^D ‘suck’
 PTB *dyuk > PK *t-khroʔ^D ‘sambha deer’

(9) PTB *u > PK *o (vowel lowering)

PTB *nuk > PK *nok^D ‘brain’
 PTB *d-yuk > PK *t-khroʔ^D ‘sambha deer’
 PTB *ruŋ > PK *noŋ^A ‘horn’
 PTB *s-luŋ > PK *hloŋ^B ‘maggot’

PTB *d-kruk > PK *khrow^A ‘six’
 PTB *b-ru:l > PK *row^B ‘snake’
 PTB *r-luŋ > PK *loŋ^B ‘stone’
 PTB *b-yuw > PK *jow^B ‘mouse, rat’

(10) PTB *iy > PK *i

PTB *s-hwiŋ > PK *swi^B ‘blood’
 PTB *kwiy > PK *thwi^B ‘dog’
 PTB *s/g-liy > PK *kli^A ‘flea’

PTB *r-miy > PK *rwi^B ‘root’
 PTB *bwiŋ > PK *wi^A ‘bamboo rat’

(11) PTB *ey > PK *e

PTB *b-rey > PK *bre^A 'buy'

PTB *mey > PK *hme^B 'fire'

PTB *r-ney-t > PK *ne^B 'get, obtain'

PTB *rey > PK *re^B 'rattan'

PTB *d-key > PK *khe^A 'tiger'

(12) PTB *ay > PK *e

PTB *pwa:y > PK *phe^A 'bran, chaff'

PTB *r-may > PK *me^B 'tail'

PTB *s/m-lay > PK *ble^A 'tongue'

(13) PTB *əy > PK *ej

PTB *d-ləy > PK *klej^B 'crossbow'

PTB *mləy > PK *khlej^A 'boat'

PTB *twəy > *dwəy > PK *ʔdej^B 'egg'

PTB *nəy > PK *nej^A 'sun, day'

PTB *b-ləy > PK *lej^A 'grandchild'

PTB *r/s-mwəy > PK *hmej^A 'lie down, sleep'

PTB *d-kəy > PK *d-khej^A 'barking deer'

8. Discussion

It is noticeable that the tones of some protoforms cannot be reconstructed because of their unusual patterns of correspondences; for example, the ones in simple words used in everyday life, 'child', 'pungent', 'take', 'pus', 'paddy', 'blow', 'hand', 'breathe', etc. To cope with this problem, the *B' tone equivalent to Proto-Tai and Proto-Mienic tone *C was reconstructed by Haudricourt (1975), Manson (2009) and the others. Based on my field notes, the tones of the words 'paddy', 'blow', 'hand', and 'child' in modern Karenic languages are tone A in NK, tone D in CK and tone A/B in SK. Besides the addition of tone *B', could there be another solution to the problem?

The *B' tone does not seem to behave like the *C tone in the Proto-Tai and Proto-Mienic with which I am familiar. The *C tone has healthily existed in modern Tai and modern Mienic languages. It has never completely merged with tones A, B, C or D as found by Shintani (2003)²² and Manson (2009) for Karen. How could the PK *B' tone have had such a short life? Immediately after the Great Tone Split, it merged with tone *D, especially in Proto - CK.²³ Since there is no clear trace of its existence, except the unusual patterns of tone correspondences of some sets of words, would it make more sense to guess or hypothesise that once upon a time, the words 'paddy', 'blow', 'hand' and 'child' had tone *A? Actually, Pa-O and Sgaw, which can represent NK and SK languages, still have tone A in these words. As time went by, resulting from a heavy contact with the other tonal Tibeto-Burman and Tai languages spoken in the area, the original PK tone *A had independently developed in different sub-groups. In comparison with the Chinese, Tai and Hmong-Mien tones, the Karen tones are quite recent. Since PTB is non-tonal, its branches or clusters and the sub-groups within each branch have their own history of tonal developments.

With regard to Benedict's reconstruction of the glottalised voiceless stop series, i.e. *ʔp-, *ʔt-, *ʔc- and *ʔk- (Benedict, 1975:12), I hesitate to accept his claim. Phonetically, these voiceless glottalised sounds are difficult to produce. "Voiceless" is a kind of phonation type. When producing voiceless sounds, the vocal folds are open. Thus, from a stage of complete closure of the vocal folds as when a glottal stop is made to an open stage of the glottis so that the airstream can easily pass through during the voiceless stage, is harder than producing voiced implosives or voiced glottalised plosives, such as ɓ/ʔb, d/ʔd, etc. When a voiced sound is produced, the vocal folds come very close to each other to increase subglottal air-pressure; and after, to decrease the high air-pressure below, they start to blow open for the opening phase so that the air from the lungs can pass through, and then, the vocal folds begin to move towards each other again for the closing phase. The vibratory cycle or the glottal cycle ends as soon as the glottis is nearly closed. This mechanism causes the vocal folds to vibrate. As for the production of voiced implosives, the larynx with a closed glottis moves downwards, while the pulmonic egressive airstream causes a vibration of the glottis. In short, changing from a complete-closure stage to an open stage of the glottis, as when a glottalised voiceless stop (e.g. ʔp) is produced, is more difficult than changing from a complete-closure stage to a nearly-closed

²² Instead of tones A,B,C and D, Shintani uses tones 1,2,2' and 3.

²³ This is my interpretation based on Supplement 1 : the development of tone in Karen languages in Manson (2011).

stage, as when a glottalised voiced stop (e.g. *ʔb*) is made.²⁴ More information on the stages of the glottis or phonation types is to be found in Ladefoged (1971), Catford (1977) and Laver (1994).

Benedict (1979:13) reconstructs eight PK roots with final *-s, i.e. *khrus ‘bone’, *ʔbūs ‘carry with headstrap’, *khwis ‘comb’, *ŋas ‘five’, *lis ‘four’, *ʔkus ‘nine’, *[hy]as ‘pungent’, *hnəs ‘seven’ when I reconstruct *-t in most of them, i.e. no. 31. ‘bone’ *khrwit^D; 48. ‘chili pepper, pungent’ *hat^D; 61. ‘comb (v.)’ *khwit^D; 116. ‘five’ *ŋjat^D; 124. ‘four’ PNK: *lit^D, PCK: *hlwi^A, PSK: *lwi^B; 203. ‘nine’ PNK: *kot^D, PCK, and PSK: *khwī^A and 250. ‘seven’ PNK: *ʔnwet^D, PCK and PSK: *ʔnwe^A. In modern Karenic languages, the correspondences of tones in these words are not neat, for example, the NK varieties have tone D while the CK and SK ones tend to have tone A or B. If we agree with Benedict’s reconstruction of the *-s, then, we have to say that the PK *-s > *-t in NK (Pa-O) which has been retained until today. This *-s was completely dropped in CK and SK and as a result, these roots have their own history of tonal developments.

The reconstruction of the *-s seems to help solve some problems of the irregular tone correspondences, even though there is no /-s/ in modern Karenic languages. Between the two solutions, i.e. the *B’ tone and the *-s, if I have to choose one, my preference will be the *-s. However, I wonder why the *-s has not been kept in any Pa-O or Pwo language varieties, since the speakers of Pa-O and Pwo have been in close contact with Austroasiatic speaking peoples, both in the past and the present. It is known that Austroasiatic languages have final fricatives.

In conclusion, more fresh data collected in Myanmar by competent field linguists is badly needed before definite answers can be reached.

Acknowledgements

I would like to express my appreciation and gratitude to the Thailand Research Fund (TRF) for funding the “Karen Linguistics Project” from 2009-2012. Many thanks go to my Thai and international colleagues, especially James A. Matisoff, for their support and contribution of ideas to my work and also to my research assistants, Sujinat Jitwiriyant, Karnthida Kerdpol and Siwaporn Tuanthaisong for their help in many different ways. Last but not least, I would like to thank my Karen language consultants and the local authorities in the many research sites for their kind co-operation, assistance and hospitality.

References

- Abramson, Arthur. 1995. Laryngeal timing in Karen obstruents. In *F. Bell-Berti and L.J. Raphael (Eds.), Producing Speech : Contemporary Issue. For Katherine Safford Harris*. New York: AIP Press.
- Bauer, Christian. 1992. Mon-Karen contacts. 27th International Conference of Sino-Tibetan Languages and Linguistics, Paris.
- Benedict, Paul K. 1972. *Sino-Tibetan: a conspectus*. New York: Cambridge University Press.
- Benedict, Paul K. 1979. Four forays into Karen linguistic history. *Linguistics of the Tibeto-Burman Area* 5.1:1-35
- Benedict, Paul K. 1983. Proto-Karen final stops. *Linguistics of the Tibeto-Burman Area* 7.2:112- 123.
- Bennett, J. Fraser. 1992. *Phonetics and phonology of Karen languages*. (ms.)
- Bradley, David. 1997. Tibeto-Berman languages and classification. In *Papers in Southeast Asian linguistics 14*, ed. David Bradley, 1-71. Canberra: Pacific Linguistics.
- Brunelle, M. & Finkeldey, J. 2011. Tone perception in Sgaw Karen, Proceedings of the 16th International Congress of Phonetic Sciences, 372-375.
- Burling, Robbins. 1969. Proto-Karen: A reanalysis. *Occasional Papers of the Wolfenden Society on Tibeto-Burman Linguistics vol 1*. Ann Arbor, MI: Department of Linguistics, University of Michigan.
- Catford, John Cunnison. 1977. *Fundamental Problems in Phonetics*. Edinburgh: Edinburgh University Press.

²⁴ In the year 1984, I was invited by the Institute of Asian Studies in Copenhagen to analyse our Mlabri field notes. Søren Egerod, Jørgen Rischel and I did some fiber-optic experiments as I was producing the Thai voiceless plosives, p, t and k, which some linguists, e.g. Jimmy Harris, believe are glottalised sounds. My glottis could not be viewed because there was an interference of the epiglottis. We suspected that perhaps they were epiglottalised plosives.

- Enfield, N.J. 2005. Areal linguistics and mainland Southeast Asia. In *The Annual Review of Anthropology* 34:181-206
- Finkeldey, Joshua. 2011. Tone and phonation types in Sgaw Karen. In *Sgaw Karen papers presented to Nimrod Andrew, Marc Brunelle (eds.)*, 25-35. University of Ottawa. (online).
- Haudricourt, André-Georges. 1946. Restitution du Karen commun. *Bulletin de Société Linguistique de Paris* 42.1.103-111.
- Haudricourt, André'-Georges. 1953. À propos de la restitution du Karen commun. *Bulletin de la Société Linguistique de Paris*. 49.1.129-132
- Haudricourt, André'-Georges. 1975. Le système des tons du Karen commun. *Bulletin de la Société Linguistique de Paris*. 70:339-343.
- Henderson, Eggénie J. A. 1979. Bwe Karen as a two-tone language? An inquiry into the Interrelation of pitch, tone and initial consonant. In *Southeast Asian linguistic studies* 3, ed. Nguyen Dang Liem, 301-326. Canberra: Pacific Linguistics.
- Henderson, Eugénie J. A. 1997. *Bwe Karen dictionary: with text and English-Karen word list (2 vols)*. London: School of Oriental and African Studies.
- Intajamornrak, Chommanad. 2012. Variation and change of Phraw Pwo Karen vowels and tones induced by language contact with the Tai languages. *Manusya* 15.2:1-20.
- Jitwiriyant, Sujinat. 2012. Ban Pa La-u Sgaw Karen tones: an analysis of semitones, quadratic trendlines and coefficients. *Manusya* 15.2:60-77.
- Jones, Robert B. 1961. *Karen linguistic studies: Description, comparison and texts*. Berkeley: University of California Press.
- Jones, Robert B. 1971. Some problems in reconstructing Proto-Karen tones. 4th International Conference of Sino-Tibetan Languages and Linguistics, Indiana.
- Kato, Atsuhiko. 2009. A basic vocabulary of Htoklibang Pwo Karen with Hpa-an, Kyonbyaw, and Proto-Pwo Karen forms. "*Asian and African languages and linguistics*" no. 4, 169-217.
- Kauffman, William G. 1993. *The great tone split and Central Karen*. University of North Dakota: M.A. Thesis.
- Kerdpol, Karntida. 2012. Formant transitions as effective cues to differentiate the places of articulation of Ban Pa La-u Sgaw Karen nasals. *Manusya* 15.2:21-38.
- Kullavanijaya, Pranee and Theraphan L-Thongkum. 2000. Linguistic criteria for determining Tai ethnic groups: case studies on central and Southwestern Tais. In *Proceedings of the International Conference on Tai Studies*, July 29-31, 1998, pp. 273-297. Bangkok: Institute of Language and Culture for Rural Development, Mahidol University.
- Ladefoged, Peter. 1971. *Preliminaries to Linguistic Phonetics*. Chicago: The University of Chicago Press.
- Langella, François. (2012). Polyfunctionality in Pwo Karen: the case of ʔàʔ- (<T-B pronominal prefix *ʔa-) in Tadao Miyamoto, Naoyuki Ono, Kingkarn Thepkanjana and Satoshi Uehara (eds.) *Typological Studies on Languages in Thailand and Japan*. Tokyo: Hituzi Syobo Publishing. 41-55.
- LaPolla, Randy J. 2001. The role of migration and language contact in the development of the Sino-Tibetan language family. In *Areal diffusion and genetic inheritance: case studies in language change*, eds. R. M. W. Dixon & A. Y. Aikhenvald, 225-254. Oxford: Oxford University Press.
- Laver, John. 1994. *Principles of Phonetics*. Cambridge: Cambridge University Press.
- Lewis, M. Paul (ed.). 2009. *Ethnologue: Languages of the World*, Sixteenth edition. Dallas, Texas: SIL International. (online)
- L-Thongkum, Theraphan. 1991. A preliminary reconstruction of Proto-Lakkja (Cha Shan Yao). *Mon-Khmer Studies* 20, 57-89.
- L-Thongkum, Theraphan. 1993. A view on Proto-Mjuenic (Proto-Yao). *Mon-Khmer Studies* 22:163-230.
- L-Thongkum, Theraphan. 1997. Implications of the retention of proto-voiced plosives and fricatives in the Dai Tho language of Yunnan province for a theory of tonal development and Tai language classification. In *Jerold A. Edmondson and David B. Solnit (Eds.)*, Publication 124, 193-221.

- Comparative Kadia: The Tai branch, J. Dallas: SIL and U. of Texas at Arlington. Publications in Linguistics.
- L-Thongkum, Theraphan. (2011). Numerals and classifiers in Modern Karenic languages and Proto-Karen. Paper presented at the 44th International on Sino-Tibetan Languages and Linguistics, organised by Central Institute of Indian Languages, Mysore, India.
- L-Thongkum, Theraphan. (2012). Proto-Karen (*k-rjaŋ^ʰ) fauna. Paper presented at SEALS 22, co-organised by French laboratories and institutions, Agay, France.
- Luce, Gordon H. 1959. Introduction to the comparative study of Karen languages. *Journal of the Burma research society* 42.1:1-18.
- Luce, Gordon H. 1985. *Phases of pre-Pagan Burma: Languages and history*. Oxford: Oxford University Press (2 volumes).
- Manson, Ken. 2002. *Karenic language relationships: a lexical and phonological analysis*. Payap University.
- Manson, Ken. 2017. Bibliography of Karen linguistics (3rd edition). La Trobe University.
- Manson, Ken. 2009. Prolegomena to reconstructing Proto-Karen. *LaTrobe working papers in linguistics* 12.
- Manson, Ken. 2010. Bibliography of Karen linguistics. Payap University. (online)
- Manson, Ken. 2011. The subgrouping of Karen. Paper presented at SEALS 21, Bangkok.
www.jseals.org/seals21/manson11subgroupingqd.pdf
- Manson, Kenneth N. 2017a. Bibliography of Karen linguistics, 3rd ed. Melbourne: La Trobe University.
https://www.academia.edu/34578587/Bibliography_of_Karen_linguistics_3rd_ed_
- Manson, Kenneth N. 2017b. The characteristics of the Karen branch of Tibeto-Burman. In Picus Sizhi Ding & Jamin Pelkey (eds.) *Sociohistorical linguistics in Southeast Asia: New horizons for Tibeto-Burman studies in honor of David Bradley*, 149–168. Leiden: Brill.
- Matisoff, James A. 1973. Tonogenesis in Southeast Asia. In *Consonant types and tone*, ed. Larry Hyman, 73–95. Los Angeles: University of Southern California.
- Matisoff, James A. 1983. Linguistic diversity and language contact. In *Highlanders of Thailand*, eds. J. MacKinnon & Wanat Bhruksasri, 56-86. Oxford: Oxford University Press.
- Matisoff, James A. 1991. Sino-Tibetan linguistics: present state and future prospects, *Annual review of anthropology* 20: 469-504.
- Matisoff, James A. 2003. *Handbook of Proto-Tibeton-Burman: System and philosophy of Sino- Tibetan reconstruction*. Berkeley: University of California Press.
- Mazaudon, Martine. 1977. Tibeto-Burman tonogenetics. *Linguistics of the Tibeto-Burman area* 3.2:1-123.
- Pittayaporn, Pittayawat. 2013. Sonorancy of the dorsal rhotics /ɣ/ in Sgaw Karen. Unpublished manuscript.
- Ratanakul, Suriya. 1986. *Thai-Sgaw Karen dictionary*. Institute of Language and Culture for Rural Development, Mahidol University.
- Schliesinger, Joachim. 2000. *Ethnic groups of Thailand : non-Tai-speaking peoples*. Bangkok, Thailand : White Lotus Press.
- Shintani, Tadahiko. 2003. Classification of Brakaloungic (Karenic) languages, in relation to their tonal evolution. In *Proceedings of the symposium cross-linguistic studies of tonal phenomena: historical development, phonetics of tone, and descriptive studies*, ed. Shigeki Kaji, 37-54. Tokyo: Tokyo University of Foreign Studies.
- Simons, Gary F. and Charles D. Fennig (eds.). 2018. *Ethnologue: Languages of the World, Twenty-first edition*. Dallas, Texas: SIL International
- Solnit, David B. 2001. Another look at Proto-Karen. Paper presented at the 34th International Conference of Sino-Tibetan languages and linguistics, Kunming.
- Teeranon, Phanintra. 2012. Initial consonant voicing perturbation of fundamental frequency of clear vowels: a controversial case from Ban Doi Pwo Karen. *Manusya* 15.2:39-59.
- Teerarojanarat, Sirivilai. 2012. Using GIS for exploring Karen settlements: a case of the Western and Northern Thailand along the Thai-Burmese border. *Manusya* 15.2:78-104.

- Thomas, Dominique and Leonardo Alves-Soares (2011). On the three-way plosive contrast of Sgaw Karen. In *Sgaw Karen papers presented to Nimrod Andrew, Marc Brunelle, (eds.)*, 5- 24. University of Ottawa. (online)
- Van Driem, George. 2001. *Languages of the Himalayas: An ethnolinguistic handbook of the greater Himalayan region*. Leiden: Brill.
- Weidert, Alfons. 1987. *Tibeto- Burman tonology*. Amsterdam: John Benjamins.

Reviewed: Received 25 October 2018, revised text accepted 15 December 2018, published February 22 2019

Editors: Editor-In-Chief Dr Mark Alves | Managing Eds. Dr Paul Sidwell, Dr Nathan Hill, Dr Sigrid Lew